



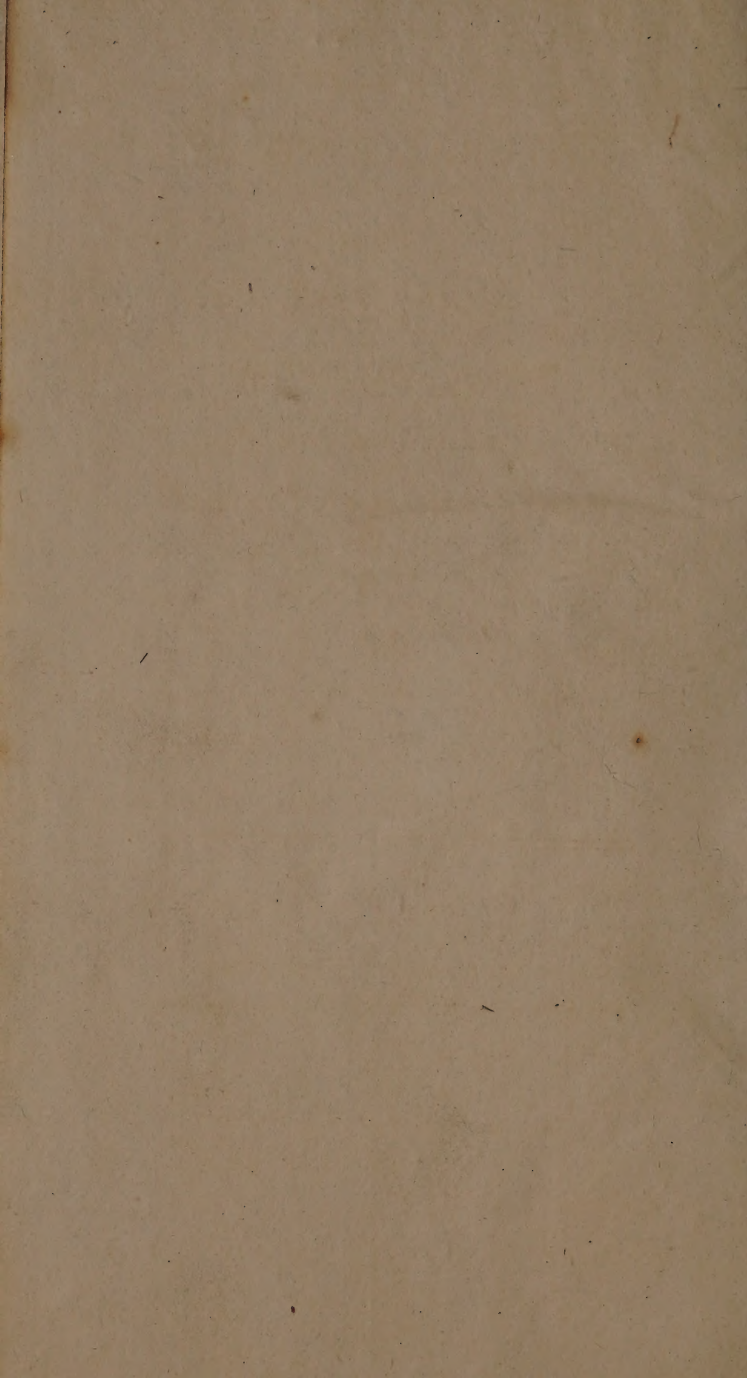
N. Hadley Jun^r



John Marmaduke Teesdale.

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NATURAL HISTORY

OF

BIRDS, FISH,

INSECTS, AND REPTILES.

EMBELLISHED WITH

UPWARDS OF TWO HUNDRED ENGRAVINGS.

IN SIX VOLUMES.

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NATURAL HISTORY

BIRDS, FISH,

INSECTS, AND REPTILES

ILLUSTRATED WITH

REWARDS OF TWO HUNDRED ENGLISH POUNDS



VOL. 1

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1871

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NATURAL HISTORY

OF

BIRDS, FISH, REPTILES, &c.

THE PHYSIOLOGY AND STRUCTURE OF BIRDS.

WHATEVER part of the Universe we consider, it appears to be replenished with life, and “bursting into birth;” every part of Nature abounds with action; even the yielding air, and those tracts of seeming space, where man (we had almost said) could *never* ascend (unless the discovery of *balloons* may militate against the assertion), are found destitute of inhabitants, nor can we proceed one step without discovering fresh traces of a wisdom as inexhaustible in the variety of its plans as in the richness and fertility of the execution.

A BIRD in flight may be styled a mass of
VOL. I. B matter,

matter, raised aloft in spite of the air, and the power of gravitation impressed on all bodies, and which impels them to the earth; it is transported, not by an external impulse, but by a power of self-motion, accommodated to its purpose, and capable of sustaining it aloft with graceful vigour for a considerable length of time. In the anatomy of Birds every part seems formed for traversing the aerial regions; some launch away in repeated springs, and advance by successive boundings; others seem to glide through the air, and cleave it with an equal and uniform progress; the former skim over the earth, the latter soar up to the clouds; yet they can all diversify their flight to avoid the enemy whom they cannot oppose; they can ascend in right, oblique, or circular lines; suspend themselves, and continue motionless in an element lighter than themselves; then start into motion, remount, or precipitate in an instant, like a descending stone; or transport themselves without opposition, or hazard, wherever their necessities or pleasures invite them. Nothing is more natural to the eye than the bird which wings the air; yet to the optics of reason nothing is more astonishing.

As

As to the external structure of Birds, it is peculiarly adapted for swiftness of motion; it is neither extremely massive, nor equally substantial in all its parts; but being designed to rise in the air, is capable of expanding a large surface without solidity. The body is sharp before, to pierce and make its way through that element; it then gradually increases in bulk, till it has acquired its just dimensions, and falls off in an expansive tail.

But whatever wise adaptation of means to ends may appear in the configuration of the feathered race, there is still something more interesting, because, perhaps, more obvious, in attending to their natural intercourse, or, as a philosophical poet delicately expresses it, "*the passion of the groves*;" to the curious mechanism of their nests, the solicitude with which they attend their eggs, the structure of the egg itself, their instinct, and the birth and education of their young.

Terrestrial animals of the class of quadrupeds are brought into the world completely formed, and in a state of active existence, like their maternal parent, and they are termed *viviparous*; in opposition to these stand the *oviparous*, or

such as conceive eggs, which they afterwards bring forth, and from which, by the incubation of the parent, or some other principle of warmth and fermentation, at length animals arise; which, after they have consumed the moisture that surround them, and arrive to a sufficient bulk, firmness, and strength, break their shells, and come forth.

When the connubial league is once settled, they have immediate recourse to the necessary preparations for their tender offspring; and here it is not unworthy of remark, that the same temper of weather, which raises the general warmth in the feathered tribe, covers also the trees with leaves, and the fields with grass, for their security and protection; and produces infinite swarms of insects, for the support and sustenance of their respective broods.

The business of building the nest is the common care of both parents, and is performed with no small degree of assiduity and apparent design; during its progress nothing is seen but restless hurry. Nor is there, perhaps, less variety in the choice of their situation, than in the architecture of their retreats; some fly to the holly-hedge, some to the thicket——

“Some

" Some to the rude protection of the thorn
" Commit their feeble offspring; the cleft tree
" Offers its kind concealment to a few;
" Their food its insects, and its moss their nest.
" But most in woodland solitudes delight,
" In unfrequented glooms, or shaggy banks,
" Steep, and divided by a babbling brook
" Whose murmurs soothe them all the live-long day,
" When by kind duty fixed. Among the roots
" Of hazel, pendant o'er the plaintive stream,
" They frame the first foundation of their domes:
" Dry sprigs of trees, in artful fabric laid,
" And bound with clay together."

But wherever they dispose themselves they always take care to be accommodated with a shelter, and where a natural one does not offer itself, they very ingeniously make a covering of a double row of leaves, down the slope of which the rain trickles without entering into the little opening of the nest that lies concealed below. The nest itself is raised on more solid materials, and is strengthened with a foundation; for this purpose they make use of dry wood, shivers of bark, thorns, reeds, thick hay, and compact moss; and on this first layer, which seems very shapeless, they spread and fold in a round all the most delicate materials, as down, wool, silk, spiders' webs, feathers, and

and a hundred other little materials, that are all useful in the nest, and which communicate a convenient warmth to them and their young.

When the ordinary supplies fail them, there is scarcely any invention to which they have not recourse for assistance: “ This (says the Abbé de la *Pluche*) I learnt from some goldfinches which I bred:—I had only furnished them with hay for the structure of their nest; and the female, for want of raw silk or cotton, found out an experiment that surprized me: she began to unplume the breast of the male without the least opposition from him, and afterwards lined her little apartment very artificially with the down.”

There is another peculiarity observable in the feathered race, which can only be referred to that wonderful principle that directs their general conduct: every different kind of bird observes a particular plan in the structure as well as the furniture of its little apartment; yet all of the same species work after the same model. Nor is this conduct owing to imitation; for though you hatch a crow under a hen, and never let it see any of the works of its own kind, the nest it makes will be the same,

same as all the other nests of the same species, even to the laying of a stick.

We wish not, however, dogmatically to assert that some variations do not arise from the circumstance of place or climate, or the ability to procure materials. The red-breast will occasionally make its nest with oak-leaves, or with moss and hair; and in the tropical climates, where the heat of the weather promotes the process of incubation, the bird is less solicitous about its nest than in colder regions.

Thus the ostrich in Senegal, where the heat is excessive, neglects her eggs during the day, but sits upon them in the night. At the Cape of Good Hope, however, where the degree of heat is less, the ostrich, like other birds, sits upon her eggs both day and night. In countries infested with monkeys, many birds, which in other climates build in bushes and clefts of trees, suspend their nests upon slender twigs, and thus elude the rapacity of their enemies.

The peculiar architecture of the nest of each species seems to be adapted to the number of eggs, the temperature of the climate, or the dimensions of the little animal's body. In some, the blackbird and thrush for instance, the cavity of the nest is exactly fitted to receive the
body

body of the bird, and this is generally the case with birds that build with sides to their nests, and make deep cavities: they stand within the nest while they are at work, and make their own bodies the gauge of their dimensions in building.

Were birds endued with scientific knowledge, their buildings would doubtless be as various as ours: but they have no science, nor have they any implements of industry, except their beaks; and yet they form works that manifest all the ingenuity of the architect, and all the industry of the mason. Some unite hairs, moss, and reeds, into one mass with the dexterity of the weaver; others connect all the parts of their nests with a thread, which they spin from flue or down, as well as from hemp and hair, and not unfrequently from the webs of spiders, which they easily procure when these wandering creatures dart from place to place, and fill the fields with their threads.

Another class again, like the blackbird and lapwing, after they have made their nest, rough-cast the inside with a slight covering of clay or mortar, that connects and supports it all below; this they also temper with moss, and thus form a complete wall within; or, to domesticate

domesticate the idea, let us call it an apartment commodiously furnished, and properly calculated to preserve the necessary warmth.

The nests of the swallow and the marten are a structure entirely different from all others; they neither want wood, hoops nor bands, but make a kind of plaster, or rather cement, with which they erect a dwelling equally secure and convenient for themselves and family. Destitute of any of those tools by which "art worketh her wonders," the simple process they pursue is to wet their breasts on the surface of the water, then shedding this dew over the dust, they temper and work it up with their bill.

Small birds, whose eggs are generally numerous, make their nests warm, that the animal heat may be equally diffused; but the larger species are less solicitous in this respect. Again, the smaller tribes, that live upon fruit and corn, and are often unwelcome intruders upon the labours of man, use every caution to conceal their nests from watchful intrusion: while the only solicitude of the great birds is to render their refuge inaccessible to wild beasts and vermin.

It is asserted by Naturalists, that in general every bird resorts to hatch in those climates or

places where its sustenance is found in greatest plenty, and always at that season when provisions are in the greatest abundance. The large birds, and those of the aquatic kinds, chuse places as remote from man as possible, as their food is in general different from that which is cultivated by human labour. It is also observed with respect to climate, that several sorts of water-fowl, which with us make but a very slovenly nest, are much more exact in this particular in the colder regions of the north. There they take every precaution to make it warm; and some kinds strip the down from their breasts, to line it with greater security.

The important business of nidification being now completed, the dam lays her eggs, the number of which varies according to the species: some have only two at a time; others four or five, and some even eighteen. When the eggs are laid, the male and female brood over them by turns; though this is generally the female's province. And here we cannot but admire the impressions of a superior Intelligence that acts upon these little creatures: they have no certain knowledge either of what their eggs contain, or of the necessity there is to sit on them in order to hatch them; and yet this
animal,

animal, who is so active and unsettled at other times, in this moment forgets her natural disposition, and fixes herself on the eggs as long as it is necessary: she submits to every restraint, renounces all pleasure, and continues sometimes more than twenty days inseparable from her brood, and that with a tenderness so extraordinary as makes her neglect the calls of appetite.

Nothing can exceed the patience of birds at this period: neither the demands of hunger, nor the near approach of danger, can drive them from the nest. They are often very fat at the beginning of incubation, yet before its end they are generally wasted to mere skin and bone; as we see constantly is the case of domestic fowls. The male, on his part, shares and alleviates her fatigue; he brings food to his faithful mate, repeats his journeys without intermission, and waits on her with the collation ready prepared in his bill: his services are accompanied with the politest behaviour, and if ever he discontinues his assiduity, it is to entertain her with his warbling: he acts with so much fire and alacrity, and assumes so many graces, that it is difficult to know whether the painful perseverance of the little mother,

or the officious inquietude of her spouse, are most to be admired. Often when she is tired he takes her place, and patiently continues upon the nest until her return. Sometimes the eggs acquire a degree of heat too powerful for the purposes of hatching; in which case the dam leaves them to cool a little, and then returns to sit with her usual perseverance and pleasure.

—The appointed time
 With pious toil fulfill'd, the callow young,
 Warm'd and expanded into perfect life,
 Their brittle bondage break, and come to light,
 A helpless family, demanding food
 With constant clamour.

But before we enter upon the culture or education of the young brood, it may not be improper to give a description of what the egg contains, as well as of the manner in which the young is formed in it, and how it issues from its confinement.

An Egg is a substance too generally known to require definition; and a very anatomical nicety in its analysis would not afford any high degree of satisfaction: we shall, therefore, substitute an accurate description, in the place of both,

both, and in the language of the most industrious and best informed naturalists, Malpighi, Willoughby, Abbé de la Pluche, &c.

One may judge of the eggs of the smallest birds by that of a hen, where the parts are more apparent. We may easily distinguish the yolk in the centre of the egg, as likewise the first white substance that surrounds it. Besides these, we can see the ligaments that sustain the yolk towards the centre of the egg; and can likewise discover several membranes, one of which enfolds the yolk, another the first white, a third and fourth encompass the whole; and, lastly, we see the shell, formed for the defence and preservation of all the rest. What lies within these inclosures has the first formation, the shell has the last, and hardens from day to day. It is a fluxion of salts evacuated from the humours of the dam, and which the heat fixes and consolidates round the egg, to form a crust, that has a double function; one qualifies the mother for discharging the egg without crushing it; the second preserves the young from all accidents, till it be formed and in a condition to forsake the egg. We may even say, that the egg performs to young birds the office of a breast and milk, with which the
offspring

offspring of other animals are nourished: the embryo chick is first sustained with the white of the egg, and afterwards with the yolk, when the animal has gathered a little strength, and its parts begin to be fixed.

Under the membrane which surrounds the yolk, is found a little cicatrice, or white spot, the *punctum saliens*, which is the only seed where the chick resides in miniature. It has all its organs at that time, but they are involved and comprehended in a point. If the smallest portion of that vital spirit which is destined to animate the mass, be then infused into it by a process, of which we have no idea, the chick receives life at the same instant, and its whole substance is roused into motion. We have no adequate conception, indeed, of a vital spirit; but this expression points out a reality, which is sufficient for our purpose.

When the vital principle has not been infused into this speck, which comprehends not only the first sketch but every part of the chick, the egg will contain nothing more than an unprolific nourishment, and will never become a living animal. On the contrary, should this enlivening spirit be transmitted, in the minutest degree, through the pores of those membranes
through

through which such a diversity of aliments has already flowed, it will then open the small vessels of the chick, diffuse a general warmth, and convey a nutrimental fluid to the heart. The structure of this little muscle enables it to open and dilate, for the reception of what passes into it on one side, and likewise to contract itself, for discharging, through another orifice, which has been already received.

The pulsation of the heart hath some analogy to the pendulum of a clock, from whose vibration the whole machine derives its motions. The moment the heart begins to beat, the animal is alive, but still continues to receive, by the mediation of the umbilic duct, a flow of nutritious juices, which it transmits into the other vessels, whose branches distribute this nourishment through the whole body. All those little canals, which were flat before, are now swelled and enlarged; the whole substance imbibes a proper aliment, and the chick begins to grow.

It is almost impossible to distinguish, amidst the fluids that surround it, the nature of its daily progress and changes, till the period when it issues from the shell. But let us not omit one precaution, equally evident and astonishing, and

and which is observable in the situation of the speck, out of which the animal is formed, This minute and globular particle of matter, which is lodged on the film that enfolds the yolk, has always its portion near the centre of the egg, and towards the body of the dam, in order to be impregnated with a necessary warmth. The yolk is sustained by two ligaments, visible at the aperture of the egg, and which fasten it on each side to the common membrane glued to the shell. Should a line be drawn from one ligament to the other, it would not exactly pass through the middle of the yolk, but above the centre, and would cut the yolk into two unequal parts, so that the smaller part of the yolk which contains the seed, is of necessity raised towards the belly of the bird who performs the incubation; and the other part, being more gross and weighty, always descends as near the bottom as the bands will permit; by which means, should the egg be displaced, the young cannot receive any injury, and, whatever may happen, it enjoys a warmth that puts all about it into action, and, by degrees, completes the disengagement of its parts.

As it is incapable of sliding down, it nourishes itself in ease, first with this liquid and delicate white, which is adapted to its condition, and afterwards with the yolk, which affords a more substantial food ; and when the bill is hardened, and the bird begins to be uneasy at his confinement, he endeavours to break the shell, and does so in effect. After which he issues out, fully replenished with the yolk, which nourishes him a little longer, till he has strength enough to raise himself on his feet, and can march about to look for provisions, or till the parents themselves come to supply them.

Birds that nourish their young have generally very few, and it is further observable that those birds which are detrimental to us, and with whose existence we can easily dispense, are the species that multiply the least ; indeed, were the progeny numerous, both the parents would be slaves, and the young but indifferently supported.

On the other hand, those birds, the young of which feed themselves when they first see the day, have sometimes twenty in a brood ; the mother in this case, who marches in the van of her progeny, without the solicitude of procuring

subsistence for them, can superintend twenty as well as four. The birds whose flesh is the most salutary, and whose eggs afford the most nourishment, are fruitful to a prodigy.

The production of the young seems to be the great æra of a bird's happiness; nothing can at this time exceed its spirit and industry; it is rendered sensible of the cares that attend a family, and the important pursuits of common subsistence take up its whole care; the warblers are silent, it is no longer a season for singing, or at least they indulge it less frequently, and their attachment to their offspring operates to a degree that even changes their natural disposition, and new duties introduce new inclinations. The most timid become courageous in the defence of their young, and birds of the rapacious kind, at this season, become more than usually fierce and active; they carry their prey, yet throbbing with life, to the nest, and early accustom their young to habits of slaughter and cruelty. Even the hen, when she becomes the parent of a family, no longer continues the same creature; naturally timorous, and before this period knowing nothing but flight, she becomes a heroine at the head of a troop of chickens; she despises danger, courageously

rageously attacks the stoutest dog in defence of her brood, and would probably venture to encounter even a lion.

But what shall we say of the principle which leads them to this conduct?

*Equidem credo, quia sit divinitus illis
Ingenium.*

“ I think their breasts with heavenly souls inspir’d.”

But though animals in their generation may be wiser than the sons of men, yet their wisdom is confined to a narrow compass, and limited to a few particulars. The design or conduct is not in the animal, but in the Creator of the animal, who directs its operations to their own good, by what may properly be styled a mysterious influence.

“ With what caution,” says the elegant author of the Spectator, “ does the female provide herself a nest in places unfrequented and free from noise and disturbance ! when she has laid her eggs in such a manner, that she can cover them, what care does she not take in turning them frequently, that all parts may partake of the vital warmth ! when she leaves them, to provide for her necessary sustenance, how punctually does she return before they have time to cool, and become incapable of produc-

ing an animal ! In the summer you see her giving herself greater freedom, and quitting her care for above two hours together ; but in winter, when the rigour of the season would chill the principles of life, and destroy the young ones, she grows more assiduous in her attendance, and stays away but half the time. When the birth approaches, with how much nicety and attention does she help the chick to break its prison ! Not to take notice of her covering it from the injuries of the weather, providing it proper nourishment, and teaching it to help itself ; nor to mention her forsaking the nest, if, after the usual time of reckoning, the young ones do not make their appearance. A chymical operation could not be followed with greater art or diligence, than is seen in the hatching of a chick ; though there are many other birds that shew an infinitely greater sagacity in all the forementioned particulars.

“ But at the same time the hen, that has all this seeming ingenuity, which is indeed absolutely necessary for the propagation of the species, considered in other respects, is without the least glimmerings of thought or common sense. She mistakes a piece of chalk for an egg, and sits upon it in the same manner ; she is in-
sensible

sensible of any increase or diminution in the number of those she lays : she does not distinguish between those of another species ; and when the birth appears of never so different a bird, will cherish it for her own. In all these circumstances, which do not carry an immediate regard to the subsistence of herself or species, she is a very idiot.”

Birds of the same species, as we have before remarked, unless when restrained by peculiar circumstances, uniformly build their nests of the same materials, and in the same form and situation, though they inhabit very different climates ; and the form and situation are always exactly suited to their nature, and calculated to afford them shelter and protection. When danger, or any other circumstance peculiar to certain countries, renders a deviation from the common form or situation of nests necessary, that deviation is made in an equal degree, and in the very same manner, by all the birds of one species ; and it is never found to extend beyond the limits of the country where alone it can serve any good purpose. When removed by necessity from their eggs, birds return to them with haste and anxiety, and shift them so as to heat them equally ; and it is worthy of
observation,

observation, that their haste to return is always in proportion to the coldness of the climate. But do birds reason, and all of the same species reason equally well, upon the nature and extent of danger, and upon the means by which it can best be avoided? Have birds any notion of equality, or do they know that heat is necessary for incubation? No: in all these operations men recognise the intentions of Nature, but they are hid from the animals themselves, and therefore cannot operate upon them as motives.

Yet we have instances of animal sagacity that seem to indicate something very superior to what is generally understood to be the operation of instinct. It is well known that crows feed upon several kind of shell-fish, when within their reach, and that they contrive to break the shell by raising the fish to a great height and letting it drop upon a stone or rock. This may, perhaps, be considered as pure instinct directing the animal to the proper means of acquiring its food. But what is to be thought of the following fact, communicated, as we are told, by a gentleman whose veracity is unquestionable, and who being totally unacquainted with the theories of philosophers had

had of course no favourite hypothesis to support?

“ In the spring of the year 1791 a pair of crows made their nest in a tree, of which there are several planted round his garden, and in his morning-walks he had often been amused by witnessing furious combats between them and a cat. One morning the battle raged more fiercely than usual, till at last the cat gave way, and took shelter under a hedge, as if to wait a more favourable opportunity of retreating to the house. The crows continued for a short time to make a threatening noise; but perceiving that on the ground they could do nothing more than threaten, one of them lifted up a stone from the middle of the garden, and perched with it on a tree planted in the hedge, where she sat watching the motions of the enemy of her young. As the cat crept along under the hedge, the crow accompanied her by flying from branch to branch, and from tree to tree, and when at last puss ventured to quit her hiding-place, the crow, leaving the trees, and hovering over her in the air, let the stone drop from on high on her back.” That the crow, on this occasion, reasoned is self-evident; and it seems to be little less evident that the
ideas

ideas employed in her reasoning were enlarged beyond those which she had received from her senses. By her senses she might have perceived that the shell of a fish is broken by a fall ; but could her senses inform her that a cat would be wounded or driven off the field by the fall of a stone ? No ; from the effect of the one fall preserved in her memory she must have inferred the other by her power of reasoning.

But of the anxiety and courage of birds, in the preservation of their brood, and their *instinctive* discernment, we have a singular instance related by Professor *Reimar*, and such a one as perhaps seldom occurred to the observation of Naturalists.

“ Two robins (says he) had their nest within a small hollow of a rock, which was shaded by a spreading oak : the female had five eggs, which she hatched with such assiduity that both I and others often viewed her very near, and even touched her, without her making the least motion to avoid the apparent danger.

“ One day my *lying-in* bird was absent, and I apprehended she had forsaken her nest ; but my suspicions were changed on seeing a cuckoo hopping along an adjoining descent, and which finally alighted on a tree near where I stood,

at

at the same time I perceived my robins watching the cuckoo's motions. It occurred to me that it is the practice of the female cuckoo to lay its eggs in the nest of some other small bird, and such seemed her present intention. *Reason* would have taught the robins to post themselves in the nest, the better to defend it, but *instinct* determined them to keep at a distance, and put the enemy on a wrong scent: accordingly the nearer it approached the nest, the more alertly the robins strove to mislead it, by fluttering about with all the marks of anguish, and using a note highly expressive of distress; the cuckoo at length, after a long pursuit, returned to a bough much nearer to the nest than she had yet been; a moment was not, therefore, to be lost: one of the robins rushed under the feathers of the cuckoo's tail, and fell to pecking her with unabating fury, while she kept shivering, her bill open so very wide, that the other robin, which attacked her in front, threw herself in so far that no part of her head was to be seen, and the cuckoo, appearing to be seized with a kind of vertigo, fell towards the ground, hanging with her claws to the branch on which she had perched, while her relentless enemies availed themselves of her

condition, and would probably have put a period to her existence had not a sudden storm put a termination to the combat."

Our little progeny are now brought to that period, when

light in air
Th' acquitted parents see their soaring race,
And once rejoicing, never know them more.

As soon as the whole family are fully plumed, and capable of flying alone, they are led to the proper places where their food lies, and taught the necessary art of providing for their own subsistence; and when they are completely qualified for this important task, all future connection is at an end.

Those birds that are hatched early in the spring constantly prove the most strong and vigorous offspring; while the feeble and tender children of declining summer or autumn are seldom capable of sustaining the severities of a rigorous winter. But this is a circumstance that only happens in consequence of their nests being repeatedly pillaged, in spite of which they persevere in their efforts for a new progeny.

Let us now resume our examination of the structure of birds, and how far they are adapted

adapted for the purposes to which they seem destined.

FEATHERS are not less elegant than commodious for the inhabitants of the air; not only a guard against wet and cold, and a means of hatching and brooding their young, but most convenient for flight; for which purpose they are neatly placed over the body from the head towards the tail, to give the bird an easy passage. They are inverted behind, and laid over each other in regular order. That part of them next the body is furnished with a warm and soft down; those exposed to the air and weather are more strongly made, and more curiously closed, being arrayed with a double beard in two ranks, and longer at one end than the other.

The mechanism of the feather is wonderful; the quill is firm; the shaft or rib strong, but light and hollow in proportion to its growth; the upper part possessing proportional strength, but filled with a light parenchyma, or pith; and, on the whole, having so much surface with so little gravity as to place the bird almost in equilibrium with the air.

The beards, or vanes, of the feather, when viewed through a microscope, appear to be a

row of little flat and thin plates, or *laminæ*, disposed and inserted in a line as perfect as if their extremities had been cut by the nicest instrument. Each of these *laminæ* is again in itself a quill, or basis, which sustains two new ranks, of a minuteness that renders them almost invisible, and which exactly close up all the little intervals through which the air might enter. The feathers are also disposed in such a manner, that the range of the little beards of the one slides, plays, and discovers itself more or less, under the great beards of the other feather that lies over it. A new range of lesser feathers serves as a covering to the quills of the larger. The air is excluded from every part, and thus the impulse of the feathers on that fluid becomes very strong and efficacious.

The vanes or webs in the flag part of the wing are also formed with incomparable nicety : broad on one side, and narrower on the other ; the edges of the exterior vanes bending downwards, and those of the interior, or wider, upwards, by which they catch hold of, and lay close to each other when the wing is spread ; and thus not one feather can miss its impulse.

This

This œconomy of the construction of the feathered race is curiously preserved by an expedient which renders their plumage as impenetrable to the water, as by their structure it is to the air. Whenever the bird feels itself likely to be incommoded by rain, or its feathers dry, soiled, and discontinued by gaps, it has recourse to a gland, situate on its rump, and containing a quantity of oil which it presses out with its bill, and then drawing the bill over the greater part of the feathers, successively anoints and gives them a lustre that renders them impervious to damp. This care of their plumage is one of their most constant employments. Water-fowls are endowed with such a quantity of this unctuous fluid, that it even communicates a degree of rancidity to the taste of their flesh; those that inhabit the open air have less; and our domestic fowls, which live, in a manner, under covert, have the least.

Naturalists have varied in their opinions concerning the generation or production of feathers; some contend that they are a species of plants, as having the two great characters of vegetables, *i. e.* that they grow and are not sensible; and also that they have the characteristic parts of plants,

plants, as roots, stem, branch, leaves, &c. Others seem to be nearer to nature in making feathers to be on birds, what hairs are on other animals.

In effect, feathers appear to be only productions and expansions of the last extreme fibrillæ of the cutis; and hence, upon stripping off the cutis, the feathers are likewise taken away; just as the leaves and fruit follow upon peeling the bark of a tree. Feathers also, as well as hairs, arise out of pores in the cutis; which pores are not merely apertures, or *foramina*, but a kind of *vaginulæ*, woven of the fibres of the skin, which terminate in the oscula of the internal fibres of the feathers.

The wings of birds are remarkably strong. The flap of a swan's wing has been known to break a man's leg; and a similar blow from an eagle has produced instant death. They correspond with the fore-legs of quadrupeds, and serve to support and poise the body in a fluid much lighter than itself, as well as to perform the function of oars to advance the body in any direction: at their extremities there is an appendix generally termed the *bastard wing*; the quills of the wing differ only from the common
feather

feather in being larger, and springing from a deeper part of the skin, for their shafts lay almost close to the bone.

The instruments of flying are the wings and tail: by the first, the bird sustains and wafts himself along; and by the second he is assisted in ascending and descending to keep his body poised and upright, and to obviate its irregularities and waverings.

It is by the largeness and strength of the pectoral muscles, that birds are so well disposed for quick, strong, and continued flying. These muscles, which in men are scarce a seventieth part of the muscles of the body, in birds exceed and outweigh all the other muscles taken together: upon which WILLOUGHBY makes this reflection, "that if it were possible for man to fly, his wings must be so contrived and adapted, that he might make use of his legs, and not his arms, in managing them."

The flying of birds is thus effected: the bird first bends his legs, and springs with a violent leap from the ground; then opens or expands the jointures of his wings, so as to make a right-line perpendicular to the sides of his body. Being thus raised a little above the horizon,

rizon, he vibrates his wings with great force and velocity, perpendicularly against the air; which, though a fluid, resists those successions, and re-acts as much as it is acted on: by these means the whole body of the bird is protruded. The sagacity of nature is very remarkable in the opening and recovering of the wing for fresh strokes. To do it directly, and perpendicularly, it must needs have a great resistance to overcome: to avoid which the bony part, or bend of the wing into which the feathers are inserted, moves sideways with its sharp end foremost; the feathers following it like a flag.

RAY, WILLOUGHBY, and others, have supposed the tail to do the office of a rudder, in steering and turning the body this way or that; but BORELLI has shewn it unfit for any such office. The *flying* of a bird, in effect, is quite a different motion from the sailing of a ship: birds do not vibrate their wings towards the tail, as oars are struck towards the stern, but waft them downward; nor does the tail of the bird cut the air at right angles, as the rudder does the water, but is disposed horizontally, and preserves the same situation what way soever the bird turns.

In effect, as a vessel in the water is turned about on its centre of gravity to the right, by a brisk application of the oars to the left; so a bird, in beating the air with its right wing alone, towards its tail, its fore-part will be turned to the left: as when in swimming, only by striking out with the right arm and leg, we are driven to the left.

But the tail is most particularly of use in assisting birds to rise in the air, or to descend, and to preserve their horizontal position when flying.

The BONES of birds, though of a solidity sufficient to sustain the system of their bodies, are, nevertheless, so hollow and diminutive, that they scarce make any addition to the weight of their flesh.

The CLAWS, LEGS, WINGS, and BEAKS of all birds are beautifully adapted to their various pursuits. Birds of prey that must fly to a considerable distance to obtain their food, are furnished with large strong wings; while domestic birds are uniformly the reverse. The generality of small birds, sparrows for instance, that harbour near our habitations, and pick up grain or crumbs from the table, have a small bill, with short legs and neck;—but the case is different

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ferent with the woodcock, the snipe, and various others that seek their aliment very deep in the earth, or amidst slime and mud.

The bill of the woodpecker is very long, and of much strength and solidity; his tongue sharp, extremely long, and armed with little points; this equipage relates to the bird's manner of living and obtaining its prey, which is chiefly little worms or insects that live in the heart of many branches, or under the bark of old wood. The heron, on the contrary, feeds on frogs, or whatever small fish he can pick up in fens, or near the shores of rivers or the sea; he is therefore mounted aloft on very long legs and thighs, almost destitute of plumage; he has a long neck, with an enormous bill, jagged at the extremity, like hooks, that enable him to seize and detain his slimy prey. Similar observations may be applied to the whole of the feathered race.

The organ of SMELLING is very large, and so well provided with nerves as to render this sensation very acute. The raven illustrates this, who is able to find out his prey at a considerable distance, though concealed entirely from his sight.

The

The anterior part of the eye, instead of being globular, as in the human body, turns suddenly flat, and becomes but half a sphere. In the British Zoology we are told, that "the eye of birds is not more agile than that of other animals, though their sight is more quick. On the contrary, their eye is quite immovable, as is that of most animals and insects of the quickest sight."

As many of these creatures are continually employed in thickets and hedges, their eyes are secured from injuries, as well as too much light, by an elegant mechanism. A membrane arises from the internal angle, which can, at pleasure, be made to cover the eye like a curtain. This curtain is neither pellucid nor opaque, both which would have been equally inconvenient; but being somewhat transparent, allows as many rays to enter as to make any object just visible, and is sufficient to direct them in their progression. By means of this membrane it is that the eagle is said to look at the sun.

Birds have no external EAR, but in place of it they have a tuft of very fine feathers, covering the auditory passage, which readily allows the sound to pass them, and likewise pre-

vents dust or insects from getting in: and a liquor is secreted from the external part of the ear, to lubricate the passage, and obstruct the entrance of vermin, &c.

We have perhaps been somewhat diffuse on the external conformation of birds, though the subject would have borne us out to a much greater length: our view of the internal structure shall be sufficiently concise; as indeed it could scarcely prove interesting to those who have not been accustomed to anatomical researches.

The gullet runs down the neck of birds, inclining a little to the right side, and terminates in the crop, where the food is macerated and digested by a liquor separated from the glands, which abound on the internal surface of this bag. Passing through the remainder of the gullet, it arrives at length to the true stomach or gizzard, which consists of two very strong muscles. The use of the gizzard is to compensate for the want of teeth, which would be needless, as they swallow the food entire; and it is well fitted for this purpose from the great strength it possesses.

The digestion of birds is performed merely by attrition, which is assisted by the hard bodies

dies they swallow, and which can serve for no other purpose than to help the trituration of their aliments. After these pebbles, by becoming smooth, are rendered unfit for this office, they are thrown up by the mouth. Hence fowls that are long confined, though ever so well fed, turn lean for want of these stones to help their digestion.

SPALLANZANI entertains a different opinion, and says, that pebbles are not at all necessary to the trituration of the food of these animals. At the same time he does not deny that when put in motion by the gastric muscles they are capable of producing some effect on the contents of the stomach, but is inclined to believe that they are not sought for and selected by design, as many suppose, but because they frequently happen to be mixed with the food.

The lungs are not loose within the cavity of the thorax, but fixed to the bone all the way; neither are they divided into lobes, as in those animals that have a large motion in their spine; but are two red spongy bodies, covered with a membrane that is pervious, and which communicates with the large vesicles, or air-bags, that are dispersed over their whole abdomen; some of these are even lodged in the fleshy parts,

parts, and some in the hollow bones. Concerning the use of these cavities, Dr. HUNTER conjectures, that they are a kind of appendage to the lungs, by serving as reservoirs of air; and that they assist birds during their flight, which must be apt to render frequent respiration difficult. Probably this construction of the organs may assist birds in singing, which the Doctor thinks may be inferred from the long continuance of song between the breathings of a canary-bird.

The migration of certain species of birds, at various times, is a subject that naturally attracts curiosity. Some birds delight in cold countries, others are pleased with temperate climates, or even the hottest regions. Some content themselves with passing from one country to another, where the air or aliment attracts them at a certain season: others traverse the seas, and undertake surprising voyages. The birds of passage most known are quails, swallows, wild ducks, plovers, woodcocks, and cranes.

In the spring quails pass from Africa into Europe, to find a more tolerable and temperate summer than they could enjoy in the country whence they came. Towards the close of autumn they return over the Mediterranean to obtain

obtain in Barbary and Egypt a gentle heat, corresponding to the climate they had abandoned, when the sun was on the other side of the equator. The quails on these occasions take their flight in troops that resemble clouds; they frequently cover ships, into which, exhausted by the fatigue of so adventurous a flight, they fall down, and become an easy prey to the sailors.

Among the feathered emigrants is generally placed the swallows, which are said to leave us about the latter end of September, directing their course towards Senegal and the Morocco shore; and this fatiguing journey they are said to perform in the space of seven days. But, however common the opinion may be, that this bird emigrates

“To distant regions and to warmer climes,”

yet from many circumstances it seems probable that the *house-swallow* is *not* a bird of passage; on the contrary, that it never quits its *natale solum*, but remains where it was produced during the winter months, like many other animals, in a state of torpor; and so far from being inclined to migrate in search of a more genial climate, is actually capable of existing through the
winter

winter months amidst the mud at the bottom of a pond. Omitting less respectable authority, we shall rest the fact on part of a letter communicated by the Hon. Sam. Dexter, Esq. to the President of the American Academy of Arts and Sciences, in 1785.

“ You know, Sir, that my house is near a large river. This river is in many parts shallow, and has a muddy bottom. A former neighbour of mine, a plain, honest, and sensible man, now deceased, who lived still nearer to the river, used frequently to say to me, as the warm weather came on in the spring, ‘ It is almost time for the swallows to come out of the mud, where they have laid all the winter.’ On my calling his philosophy once and again in question, and saying (as I formerly believed) that, doubtless, they were birds of passage, he has repeatedly assured me, he had in the autumn of many years seen great numbers of them in one day only in each year, and nearly about, but not always on the same day of the month, sitting on the willow bushes (which by the way they are not wont to rest upon at other times), on the borders of the rivers, a little after sun-set ; that they seemed as if their torpor
had

had already begun, as they would not stir from the twigs, which, by the weight of the swallows, were bent down almost to the water; and that although he had never seen them sink into it, yet he had waited till it was so dark that he could not discern them at all, and doubted not of their immersion any more than if he had been a witness of it, for he had never observed any flying about afterwards, till the return of spring. He added, that if, as he wished, I would carefully look out for their resurrection, he believed it would not be in vain. He had, he said, often taken notice that only a few appeared at first, and the main body in about a week after. Although I paid but little regard to it for some years, yet I followed his advice at length, and watched for their appearance several seasons as carefully as I could. I have not indeed beheld them rising out of the water, yet I and my family have, in more years than one, seen at the proper time of the spring, very large flocks of them in my own and in my neighbour's land, so near the margin of the river, that from this circumstance, the appearance of the feathers, and their being unable to use their wings as at other times, we concluded they were newly emerged from the water.

When they attempted to fly, they could not reach above eight or ten yards before they settled on the ground, and then might be drove about like chickens. They appeared unwilling to be disturbed, and if not frightened by some noise or motion would cluster together, seeming to want to rest themselves, as if feeble or fatigued. They were not entirely recovered from their stupor; there was a viscous substance on and about their wings, or they were too weak to fly away. We had seen none in those years before; but in each of them, after a day or two, they were flying about as usual in summer."

Wild ducks and cranes also, at the approach of winter, fly in quest of more favourable climates: like quails they assemble on a certain day, and all of them decamp at the same time, generally ranging themselves in a column like an I, or sometimes in two lines united in a point like a V reversed: but many suggestions have been made on the migration of birds by the fancy of Naturalists, that have never been confirmed by the sanction of experience: we must, therefore, dismiss opinions unsupported by facts.

The

The longevity of birds is very considerable: we give the following scale on the authority of Linnæus, Buffon, and other celebrated writers on Natural History:

An Eagle will live	100 years
A Raven.....	100
A Goose.....	70
A Partridge.....	25
A Turtle-Dove....	25
A Peacock.....	25
A Pigeon.....	8

THE OSTRICH.

This animal (*fig. 1*) has an undoubted claim to stand foremost in the arrangement of the feathered tribe, not only upon account of the superiority of his size, but because he also appears to constitute that shade which Nature has universally adopted throughout animated beings, and to form the link between birds and quadrupeds; in the general outline he certainly resembles the former, and at the same time possesses many of the characteristics of the latter, especially in the internal formation, which may be said to have as great a similarity to the one as the other; it is also the same with the external covering, which, although a kind of plumage, has as near a resemblance to hair as to feathers.

Considering him, however, as belonging to the race of birds, the ostrich is, by far, the largest of that species; he generally measures seven feet from the ground to the top of his head;



FIG. 1.
The Ostrich.



FIG. 2.
The Cassowary.

head; his neck, however, which is shaped somewhat like that of a swan, usually measures three feet, so that reckoning their height by the top of the back they seldom are more than four feet; and from this cause it is that they have been compared by some travellers, when speaking of their height, to that of a man on horseback. From the extremity of the head, which, with the bill, is shaped like that of a duck, to the origin of the tail, the neck being stretched out, is full six feet, and the tail about one; the wings are about a foot and a half each when destitute of feathers, and nearly three feet when in full plumage.

They are mostly black and white, though some have been seen of a grey colour, but they are very few: their largest feathers are at the extremities of their wings and tails, which are commonly white; these are followed by a row of black and white, and all the other small feathers are indifferently, some black and others white. They have no feathers on their sides, thighs, nor under their wings. Those on the long part of the neck are also black and white, and are much smaller than those either on the back or belly. Their feathers are all of the same kind a circumstance peculiar to the ostrich,

ostrich, for other birds have various sorts, some being soft and downy, and others harsh, hard, and strong: the whole of these, however, are nearly as soft as down, and therefore can neither assist the animal in flying, nor defend it from any injury. Another peculiarity in their feathers is the stem being exactly in the middle; while all other birds have the webs broader on one side than the other. The head and upper part of the neck are covered with a beautiful fine glossy hair, with a number of small tufts scattered in different places, composed of ten or a dozen hairs, which grow from a single shaft, not much thicker than a pin.

They have a strong spur of about an inch long something resembling the quill of a porcupine at the end of each wing; which are hollow and of a horny substance. About a foot lower also on each wing, they have another of these horny projections, but these are by no means so large as the others. The skin of the neck is of a livid flesh colour, so as to have been considered by some as a light blue; and from not being covered with feathers, the neck itself has the appearance of being more slender in proportion than that of any other bird. They have also proportionally

proportionally a very short pointed bill. The external form of their eye is like that of man, the upper eye-lid being furnished with much longer eye-lashes than those on the under one. Their tongues are but small, very short, and composed of cartilaginous ligaments and membranes, intermixed with fleshy fibres; some of them have it about an inch long, and very thick at the bottom, while in others it is not more than half an inch, and a little forked at the end.

They have very large fleshy thighs, which are in general covered with a skin inclining to red, and so much wrinkled as to have the appearance of a net whose meshes will admit the end of a finger; there are some indeed who have a few scattered feathers on them, and others whose thighs have neither feathers nor are wrinkled. Their legs in the front are covered with very large scales; their feet are cloven, and have two large toes, which are also covered with scales; these toes are not of an equal size, the inside one being by much the largest, measuring seven inches in length, including the claw, which is about three-fourths of an inch long and broad, whereas the other toe
is

is not above four inches in length, and without any claw.

With respect to the internal parts of this animal, its structure seems to be arranged with astonishing peculiarity. For instance, under the skin, at the top of the breast, there is a substance of fat at least two inches thick; and the fore part of the belly is covered with fat more than half an inch thicker, and which is there as hard as suet. It has two distinct stomachs; the first, which is in the natural situation, and which is the lowest, may, in some measure, be compared to the crops in other birds; it is considerably larger than the other, and is furnished with strong muscular fibres, which are placed both circular and longitudinally. The second stomach, or gizzard, in its outward form resembles that of the human race, and, upon being opened, it is always found to contain a variety of substances, such as hay, grass, barley, beans, bones, and stones, some of which frequently exceed the size of a pullet's egg. The kidneys of the ostrich are eight inches long and two broad, differing from those of other birds, by not being divided into lobes; the heart and lungs are separated by a
midriff,

midriff, as in quadrupeds, and with whom also their generative organs bear a strong resemblance*.

The ostrich is a native of the torrid regions of Africa, and is peculiarly adapted for living among the scorching sands, and braving the burning heats, of those inclement deserts, from which it is scarcely known to wander, being never met with in climates more mild and temperate. It has, however, been long and well known, as most travellers in that country have mentioned it among the other animals; and it is even spoke of in the Scriptures, where its flesh is proscribed as improper for food. Like the elephant it has preserved its race uncontaminated, never intermixing with any other;

* Leo Africanus says that the ostrich is incapable of hearing, but he appears possessed of all the organs on which this faculty depends, and the aperture of the ears is even very great; hence it is probable that he is deaf only under certain circumstances, for example, during the season of love; or perhaps that has been attributed to deafness which was, in fact, the effect of stupidity. It is probably also in the same season that he uses his voice, for this he does very rarely, and only a few travellers mention it as having heard it. The sacred writers compare his cry to a groaning, and it is even pretended that his Hebrew name *jacnah* is formed from *ianah*, which signifies to howl. Dr. Brown says that this cry resembles the voice of a hoarse child, only that it is more dull and melancholy. No wonder then that it appears solemn or even terrible to travellers who enter upon the immense and trackless deserts with an impression of fear and horror.

nor has it even been known to breed out of those regions whence it drew its origin, and whose temperature seems so congenial to its nature. It is in these countries that the elephant, rhinoceros, and camel, more particularly resort, and therefore it is matter of less astonishment that they should also afford a retreat for the ostrich; they all prefer the most solitary deserts, where they are secure from disturbance, although the surface of the earth is nearly barren, almost without vegetables, and the rains never come to refresh it. It is asserted by the Arabians that the ostrich never drinks, and from the nature of the place it inhabits we are almost induced to believe the assertion. In these tremendous deserts the ostriches roam about together in considerable flocks, and when at a distance they have so much the appearance of men on horseback, that many a caravan has been alarmed by them, upon the supposition of their being a regiment of cavalry. There is no desert, however barren, but what possesses sufficient to supply them with provisions, for they eat almost any thing, and therefore inhospitable tracts which are sterile to all other beings afford them food and security. Of all the species of animals the ostrich is the most voracious; he indiscriminately takes up and swallows gravel, stones, glass, leather, in short, almost every thing

thing that comes in his way, and his powers of digestion are equal to his voracity with regard to such things as are digestible; but glass, stone, iron, and other substances which will not soften, pass whole, and are voided in the same forms that the animal swallowed them.

It is most certain that any metal being swallowed by an animal, loses part of its weight in the passage: it is positively asserted that a quarter pistole, which was swallowed by a duck, lost seven grains of its weight in the gizzard before it was voided, and it is therefore very probable, from the strength of the stomach, that the diminution would be proportionably greater in that of the ostrich, and thus far it may be said to digest iron; but even supposing the capability, these substances do not continue a sufficient time in the body to undergo such a dissolution. This vulgar conclusion is in a great measure confuted by Barbot in his Description of North Guinea, in which he relates that the ambassador who was sent from Morocco to the States General of the United Provinces in the year 1659, brought over to Holland, among other varieties of those countries, as a present, an ostrich, which died in Amsterdam through swallowing nails, which the people continually supplied him with, upon the supposition that it could digest iron like bread;

bread; and as a proof of this being the cause of its death, he states, that upon being opened there was about eighty nails found entire in its stomach. Ranby and Valisnieri, in several which they dissected, always found the stomachs overloaded with a variety of substances, such as glass, stones, iron, wood, &c. nay, the latter positively affirms, that in one of them he found a piece of stone which weighed upwards of a pound. From the whole of the accounts, there appears some reason to conclude that, in swallowing these different articles, they are actuated by the same necessity which obliges the smaller birds to pick up gravel, namely, to keep the coats of the stomach asunder; or it may possibly arise from a preying desire, which may keep it perpetually uneasy, unless the great capacity of its stomach is filled up, and therefore to acquire rest, nutritious substances not being acquirable, it swallows whatever comes in its way.

From the most authentic accounts it appears that in their native abodes these animals principally feed on vegetables, after which they are in continual pursuit: there they live an inoffensive and social life, and, according to Thevenot, the males and females adhere to each other with an uncommon degree of connu-

bial

bial fidelity. They are much inclined to vengery, and the females lay very large eggs, some of them being five inches in diameter, and weighing upwards of fifteen pounds. The shells of them are extremely hard, and somewhat resemble those of the crocodile, excepting that the latter are not quite so large, and are more round. The time of producing, however, depends in a great measure on the climate in which they reside; in the northern parts of Africa they lay about the beginning of July, and in the southern not before the latter end of December. They are exceedingly prolific, and commonly lay from forty to fifty eggs in a season.

It has been asserted by most ancient writers that the female deposits them in the sand, and then covering them up, leaves them to be hatched by the heat of the sun; that she is totally regardless of her young, and from the first moment leaves them to shift for themselves. But persevering enquiry has proved these assertions to have but little or no foundation in truth, and that no bird watches her eggs with more care, or attends her young with more tender assiduity. It is true, that she quits her eggs more frequently, but then it is no less certain that in those hot climates there cannot be
a real

a real necessity for constant incubation, and that they run no hazard of being chilled by the weather; besides this absence is always in the day, and she invariably broods over them during the night; a fact which is fully confirmed by Kolbe, who also says, that he had frequent opportunities of seeing them while at the Cape of Good Hope; that they sit upon their eggs like other birds, and that the males and females perform this office by turns. The charge of their forsaking their young is no less untrue, and this is most clearly established by their not being able to walk for several days after they come out of the shell; at this time the old ones attend them with great attention, assiduously supply them with grass, and courageously defend them from all danger. When first hatched they are of an ash-colour, and covered all over with feathers; but these drop off in the course of the first year, and they afterwards acquire the plumage we have already described.

It is from the beauty of their plumage that man has been tempted to harass these harmless animals, even in the dreary deserts, and to pursue them both with labour and expense. Nor is this a persecution to which they have been recently subjected; for the ancients were equally
desirous

desirous of obtaining their plumes to decorate their helmets. The ladies of the east have long made them an ornament of their dress, and in modern days they have been esteemed as elegant ornaments by the principal persons in almost all parts of Europe. Those who hunt these animals pluck out their plumes the instant they are caught, as those taken out while the ostrich is alive are held in most estimation; for when drawn after its death, they are dry, light, and subject to decay.

Some of the savage nations of Africa hunt them also for their flesh, of which they are very fond; so much so, indeed, that particular tribes have acquired the name of *Struthophagi* (ostrich-eaters), from their peculiar fondness for its flesh. Even the Romans appear to have considered it as a dainty, for Apicius has left a recipe for making a particular sauce for the ostrich; and it is recorded of Heliogabulus that he had the brains of six hundred of these animals, at a feast, served up in one dish.

The spoils of the ostrich are so valuable, that it is no wonder the human race, who reside in the vicinity of his resorts, have been his declared enemies, and constant pursuers. The Arabs are so sensible of its value, that they train up their best and fleetest horses for the purpose
of

of hunting them, and which, of all the different sorts of the chace, is perhaps the most entertaining; for the game is always kept in view. The method they pursue is this: when the hunters come in sight of their prey, they put their horses on a gentle gallop, so as just to keep him in sight, for if they were to alarm him he would quit the plains for the mountains, which they would not be able to prevent, for of all animals that go upon legs he is by much the swiftest. Olonzo de Ovallo, in his Description of Chili, says, that although the ostriches do not fly, yet they are so swift that it is seldom that even the greyhounds can overtake them; and when they happen to be overtaken by surprise, their art in defending themselves is no less astonishing than their speed, for when the dog is going to seize him the ostrich lets down one of his wings, fixes it on the ground, and with it shades his whole body; the dog, eager of his prey, runs at him with open mouth, which he entirely fills with feathers; the ostrich sets off on the instant, and before the dog can extricate himself from his disappointment, has generally got to a sufficient distance to effectuate his escape. But to return: the ostrich perceiving himself followed,
though

though at a distance, sets off at first but at a gentle pace, as if insensible of his danger, or sure of escaping. In this running he keeps his wings, like arms, in a constant motion exactly corresponding with that of his legs, and which speed would be perfectly sufficient to escape from his pursuers, if he went off in a direct line, but unfortunately for his own safety he take his course in extensive circles, in which manner the hunters continue their pursuit, but on a smaller scale, and by relieving each other they are constantly coming near; in this manner they keep him incessantly running for two or three days together. At last, worn out by fatigue and hunger, and conceiving it impossible to escape by this means, he resolves to conceal himself from those enemies which he has so long endeavoured in vain to avoid. And here also he appears to be no less deficient in faculties than in his mode of exercising his speed, for his method of concealment is by covering his head with the sand, or running it into the first thicket he comes near, and where he patiently waits until he is taken by his pursuers. Sometimes, however, they stand upon their defence, and although naturally one of the most timid animals in Nature, in this case they

act with desperation, and defend themselves with their beaks, wings, and feet; and such is their power, that a man is unable to withstand their force.

When the Arabians take an ostrich they immediately cut his throat, and making a ligature below the opening, keep the body of the bird in continual motion for some time, and then taking off the ligature, there runs out from the wound a considerable quantity of blood mixed with the fat of the animal, which they consider as one of the greatest delicacies. Having plucked out its best plumage, they then take off the skin, which is strong and thick, and is used by them for various purposes. The Arabians also seek after their eggs, the contents of one being a sufficient repast for at least eight men.

A very different method is adapted by the Struthophagi to take this animal, and what the Arabian accomplishes by labour they achieve by art. Having obtained an ostrich's skin they cover themselves with it, and putting one of their arms up its neck, counterfeit all the actions of a living animal. By this means they approach the victim of their pursuit without being suspected, and who, of course falls an easy prey.

prey. Dogs and nets are also made use of to take them, but the most usual methods are those which we have above described.

They are not, however, always pursued for immediate destruction, as there are those who hunt them for the purpose of rendering them tame, that they may thereby obtain a supply of those feathers which are held in so much estimation; and this is accomplished with very little trouble. The inhabitants of Dara and Lybia keep considerable flocks of them; and, according to the accounts of several travellers, in this domestic state they are made very useful. Moore relates that at Joar in Africa he met a man travelling upon an ostrich; and M. Adanson says, that when he was at the factory of Podore there were two young ostriches, the strongest of which was much fleetier than the best English race-horse he ever saw, although he carried at the time two negroes on his back. Whether this strength and swiftness will ever render the animal useful to mankind in that respect is a matter of much doubt. It is very true, says M. de Buffon, that posterity may be inclined to take advantage of this creature's abilities, but it is more than probable that it will be many ages before this will become the

favourite, although the swiftest mode, of conveyance*.

There are many parts of this animal which are supposed to be very salutary for medicinal purposes; the fat is considered to be emollient and relaxing, so much so that while it relaxes the tendons it fortifies the nervous system, and being applied to the region of the loins it eases the poignant pain of the stone in the kidneys; and the shell, powdered, and taken in proper quantities, is considered as an excellent specific for promoting urine and dissolving the stone in the bladder; and the substance of the egg itself has been stated as possessing a peculiar nutritive quality, but this, however, is rejected by Galen, who, when treating on this subject, says, "the eggs of hens and pheasants are good, but those of geese and ostriches had better not be eaten."

* Besides the purposes of utility or pleasure for which the ostrich is hunted, the husbandman also is interested in the chase of them. These birds do immense mischief to the harvests; they come in troops to eat the corn, and leave nothing but the stalk. Their bodies being nearly upon a level with the grain, they bend their neck to eat, so that they are not perceptible; but at the least noise they raise it, and take to flight, before the hunter is able to seize upon them.

THE EMU.

THIS bird is a native of the New Continent, and is inferior in size to none but the ostrich, to which indeed all travellers seem to have been more desirous of approximating its affinities than in pointing out its peculiarities. It is chiefly found along the banks of the Oroonoko, in Guiana, in the inland provinces of Brasil and Chili, and in the immense forests adjacent to the mouth of the river Plata. They were formerly in many other parts of South America; but as population increased and the inhabitants multiplied, these timid animals, at least such as could escape the destructive power of men, fled from the vicinity of their habitations.

The Emu is not only a native but by much the largest bird in the New Continent; they are generally six feet high, measuring from the head to the feet. Their legs are three feet long, and their thighs are almost as thick as those of a man. Their toes differ from those of the ostrich; they
have

have three upon each foot, whereas the latter have but one. This bird has a long neck, small head, and the bill flatted, like that of the ostrich; but in all other respects it more resembles the Cassowary. The form of the body is an oval, but it appears perfectly round: its wings are very short, and it has not any tail. The back and the rump are covered with long feathers, which fall backward, and cover the anus: these feathers are grey upon the back, and white upon the belly. It is very swift in its motions, and seems assisted in its pace by a kind of tubercle behind, like a heel, upon which, on plain ground, it treads very securely; in its course it uses a peculiar kind of action, lifting up one wing, which it keeps elevated for a time, and then letting that drop, it lifts up the other. What particular advantage it derives in thus keeping only one wing elevated it is not easy to discover; whether it serves the purpose of a sail to catch the wind, or as a rudder to guide its course, in order to avoid the arrows of the Indians, yet remains to be ascertained; be this however as it may, the emu runs with such swiftness, that the fleetest dogs are thrown out in their pursuit. It is related of one of them, that finding itself surrounded
by

by the hunters, it darted among the dogs with such fury that they made way to avoid its rage; and that by its amazing speed it afterwards escaped in safety to the mountains*.

This bird being but little known, travellers have indulged their imaginations in describing some of its actions. "This animal," says Nieremberg, "is very peculiar in the hatching of its young. The male compels several of the females to lay their eggs in one nest; he then, when they have done laying, drives them away, and places himself upon the eggs; taking the precaution, however, of rolling two of the number to some little distance. When the young ones comes forth, these two eggs of course are addled; which he having foreseen, breaks one, and then the other; these attract multitudes of flies, beetles, &c. which supply the young brood with a sufficiency of provisions, until they are able to shift for themselves."

Wafer, on the contrary, asserts that he has seen great quantities of these animals' eggs buried in the sand on the desert shores, north of the river Plata, in order to be hatched by the

* This bird is by some naturalists called the *ostrich of Magellan*. Sonnini in his late edition of Buffon retains this name.

heat of the climate. But both these accounts may be doubted; and it is more probable that it was the crocodiles eggs which Wafer saw, and which are most assuredly left in the sand by these animals, and are rendered productive by the heat of the sun alone.

He also adds, that when the young ones are hatched, they are so familiar that they will follow the first person they meet. "I have been followed myself," says he, "by many of these young ostriches, which, at first, are extremely harmless and simple; but as they grow older, they become more cunning and distrustful, and run so swift, that a greyhound can scarcely overtake them." Their flesh, in general, is good to be eaten, especially if they be young, and it would be no difficult matter to rear flocks of them, particularly as they are naturally so familiar; and they might be found to answer domestic purposes, like the hen, or the turkey. Their maintenance could not be expensive, if, as is positively asserted, they live entirely upon grass.

THE CASSOWARY.

THE Cassowary (*fig. 2.*) is a native of the Islands of Sumatra, Banda, and the other adjacent Molucca Islands; it was first brought into Europe by the Dutch, from Java, in 1597, in the East Indies, and is by them called the *Casuaris**.

Though not so large as the Emu, it yet appears more bulky to the eye; its body being nearly equal, and its neck and legs much thicker and stronger in proportion; this conformation gives it an air of strength and force, which the fierceness and singularity of its countenance conspire to render formidable. Buffon says, that the one mentioned by the gentlemen of the French Academy was five feet and an half long, from the point of the bill to the extremity of the claws, and about three feet from the breast to the end of the rump, for

* The inhabitants of the country called it *Eme*, of which the Europeans have made *Emu*; but Cassowary is the name that was given to it by its first importers, and is now retained as its proper one.

it has no tail. The head and neck measured from a foot and an half to two feet; the legs were two feet and an half high, from the belly to the end of the claws; they were exceedingly gross, and covered with a yellowish rind; their feet were thick, knobbed, and without spurs; instead of which they had on the forepart three long horny claws: the largest toe, including the claw, was five inches long, and the claw alone of the least toe, three inches and an half in length. Their wings are so small, that, being hid under the feathers of the back, they are scarcely perceivable. In other birds, a part of the feathers serve for flight, and are different from those that serve for merely covering; but in the cassowary all the feathers are of the same kind, and outwardly of the same colour, a dark red mixed with black. They are generally double; having two long shafts, which grow out of a short one, which is fixed in the skin. Those that are double, are always of an unequal length; for some are fourteen inches long, particularly on the rump, while those on the breast, back, and thighs, are not above three. The beards that adorn the stem or shaft, are from about half way to the end, very long, and as thick as horse hair, without

without being subdivided into fibres. The stem or shaft is flat, shining, black, and knotted below; and from each knot there proceeds a beard, which, as well as those at the end of the large feathers, is perfectly black; towards the roots they are of a grey tawny colour; shorter, more soft, and throwing out fine fibres, like down; so that nothing appears except the ends, which are hard and black, the other part, composed of down, being quite covered. They have feathers on the head and neck; but those are so short, and thinly sown, that the skin appears naked, except towards the hinder part of the head, where they are a little longer. The feathers which adorn the rump, are very thick, but do not differ, in other respects, from the rest, excepting their being longer. The wings, when they are deprived of their feathers, are but three inches long; and the feathers are like those on other parts of the body. The ends of the wings are adorned with five prickles, of different lengths and thickness, which bend like a bow: these are hollow from the roots to the very points, having only that slight substance within which is common to all quills. The longest of these prickles is eleven inches, and a quarter of an

inch in diameter at the root, being thicker there than towards the extremity, and is so blunt at the end that the point seems broken off.

This animal, however, is most distinguished by its head, which is bare of feathers, and by that sort of conical helmet, black before, and all the rest yellow, which appears on its front, and rises from its beak to the middle of the head, and sometimes beyond. Its substance is very hard, being formed of the elevation of the bone of the skull, and consists of several plates, one over another, like the horn of an ox. It has been supposed by some authors that this was shed every year with the feathers; but the most probable opinion is, that it only exfoliates slowly like the beak. To the peculiarity of this natural armour may be added the colour of the eye, the iris of which is a bright yellow, and the globe being above an inch and a half in diameter, gives it an air equally fierce and extraordinary. At the bottom of the upper eye-lid there is a row of small hairs, and over them there is another row of black hairs, which have much the appearance of eye-brows. The lower eye-lid, which is the largest, is also furnished with plenty of black hair. The holes of the ears are close behind the eyes, are very large and open, being

being only covered with small black feathers. The sides of the head are destitute of any covering, and are of a dark blue colour, except the middle of the lower eye-lid, which is white. The upper part of the bill is very hard at the edge above, and the extremity of it is like that of a turkey-cock. The end of the upper and lower mandible is slightly notched, and the whole is of a greyish brown, except a green spot on each side: the beak admits of a very wide opening, and which contributes not a little to the bird's menacing appearance. The neck is of a violet colour, inclining to that of slate; with a tincture of red behind in several places, but chiefly in the middle. About the middle of the neck before, there are two processes formed by the skin, which resemble somewhat the gills of a cock, but that they are blue as well as red. The skin which covers the fore-part of the breast, on which this bird leans and rests, is hard, callous, and without feathers. The thighs and legs are covered with feathers, and are extremely thick, strong, straight, and covered with a kind of scales, but the legs are thicker a little above the foot than in any other place. The toes are likewise covered with scales, and are but three in number, all of which

which are in the front; they are severally armed with claws of a hard and solid substance, black without and white within*.

The cassowary has also a very singular internal conformation, for it unites the double stomach of animals that live upon vegetables, with the short intestines of those that live upon flesh. Its intestines are extremely short, and its heart is not more than an inch and an half long, nor above an inch broad at the base.

With some degree of propriety it has been remarked by a celebrated author, that the cassowary has the head of a warrior, the eye of a lion, the defence of a porcupine, and the swiftness of a courser; and yet though thus formed for a life of hostility, for terrifying others, and for its own defence, and from which it might be suspected of being one of the most fierce and terrible animals of the creation, nothing is so opposite to its natural character; it seems to be solicitous after peace and quiet, and never gives disturbance to any; even when attacked, instead of employing its bill, though so well calculated for defence, it rather makes use of its

* The wings of the cassowary are smaller than those of the ostrich, and equally useless for flight; they are armed with points to a greater number than the ostrich's.

legs and feet, kicking like a horse, or running against its pursuer, beating him down to the ground, and then endeavouring to make its escape. It has a strange appearance when running, for it does not go directly forward, but kicks up behind with one leg, and then making a bound onward with the other, proceeds with such prodigious velocity, that the swiftest racer would be unable to maintain the pursuit*.

The cassowary is equally as voracious as the ostrich, and swallows every thing that comes within the capacity of its gullet. The Dutch travellers assert that it can devour not only glass, iron, and stones, but even burning coals, without testifying the smallest fear, or feeling the least injury. It is said that the passage of the food through its gullet is performed so speedily, that even eggs, which it may have swallowed, will pass through unbroken, and in the same form they went down. The alimentary canal of this animal being, as we before observed, so extremely short, it is possible that many kinds of food are indigestible in its sto-

* The claws of the cassowary are very hard; Linnæus says, that he strikes with the middle claw, which is very large; yet from the descriptions and figures of Brisson, the claw of the interior toe is the largest, which in fact it is.

mach, as wheat or currants, when swallowed whole, are in those of the human race. Their eggs, which are not so large nor so round as those of the ostrich, are of a greyish-ash colour, somewhat inclining to green; arising from their being marked with a number of little tubercles of a deep green: the shell is not very thick, and the largest measure fifteen inches round one way, and about twelve the other.

This bird is a native of the southern parts of the most eastern Indies, and his favourite climate seems to begin where that of the ostrich terminates. The latter has never been found beyond the Ganges; while the cassowary is seen in the islands of Banda, Sumatra, Java, the Molucca Islands, and the corresponding parts of the continents; and even there they are not now, by any means, plenty, as it is not long since that one of the kings of Java made a present of one of these birds to the captain of a Dutch ship, considering it as a very great rarity. They are spoken of as having been formerly more numerous, and their present scarcity is probably owing to the constant persecutions of man: and thus the species of the cassowary, like that of many other animals who belong to inhabited regions, is suffering daily diminution,
while

while the ostrich, by continuing in the deserts and unpeopled regions of Africa, still preserves his race equally numerous, and ranges at large the unrivalled tenant of his own inhospitable climate*.

* It is remarkable that the cassowary, the ostrich of Africa, and that of Magellan (or emu), the three greatest birds that are known, are all three natives of the torrid zone, which they seem to divide among themselves, and to keep each to its own territory; all three are truly terrestrial, incapable of flying, but run with a great velocity; all three swallow whatever is thrown to them, grains, herbs, flesh, bone, stones, flints, iron, &c.; all three have the neck more or less long, the feet high and very strong, fewer toes than the greater part of birds, and the ostrich still fewer than the other two; all three have feathers of a single sort, different from other birds, and different from each other. But in spite of these and other affinities these three species are distinctly separated from each other, and so as to be incapable of being confounded. The ostrich of Africa is distinguished from the cassowary and the ostrich of Magellan (or emu) by his size, by his camel's feet, and by the nature of his feathers; it differs from the cassowary in particular by the nudity of its thighs and flanks; by the length and capacity of its intestines, &c.; and the cassowary differs from the ostrich of Magellan and the ostrich of Africa, by his thighs covered with feathers and other varieties. The first cassowary (says Sonnini) which appeared in Europe was brought thither by the Dutch in 1597; and that which was at the menagerie of Versailles, and which was examined by the gentlemen of the Academy, was the second of his species which had been brought.

THE DODO.

TO judge of this bird from the characteristics of its feathers, wings, swallowing hard substances, and some other trifling similarities, we should be induced to suppose that he has some pretensions to rank in the ostrich genus, but with whom, in regard to size, he is a mere pigmy; and so far from exciting the idea of swiftness (an idea which naturally arises in considering the feathered race) he has the evident appearance of being one of the most unwieldy and inactive creatures formed by Nature. Its body is massive, almost round, covered with soft, grey feathers, and is supported upon two short yellow legs, not more than four inches long, and as much in circumference, and from which its head and neck rise in a manner truly grotesque; it has a thick clumsy neck, and a very large head, which consists of two great chaps, that open far behind the eyes, so that the animal, when it gapes, seems to be all mouth. The bill is of an extraordinary length, not flat and broad, but thick, and of a bluish white, sharp at the end, and each chap crooked in opposite directions, resembling two pointed spoons

spoons that are laid together by the backs. From all this results a stupid and voracious physiognomy, which is still more increased by a bordering of feathers round the root of the beak, somewhat in appearance like a hood, and from which circumstance it has sometimes been called the Monkswan. Bulk, which implies strength, only contributes in this animal to inactivity. Neither the ostrich nor cassowary are able to fly, but then they supply that defect by their speed in running, while the dodo seems weighed down by its own heaviness, has scarce strength to urge itself forward, and moves so slow that it is very easily taken. It seems among birds what the sloth is among quadrupeds, an unresisting animal, equally incapable of flight or defence. It has small wings, covered with soft ash-coloured feathers, but which are too short and too weak to assist it in flying. Its tail consists of a few small curled feathers, of the same colour. Its legs are too short for running, and its body too fat to be strong; it has four toes upon each foot, three before and one behind; each of which are armed with pretty long claws.

The dodo is a native of the Isle of France; and the Dutch, who first discovered it there, called it, in their language, the *nauseous bird*,

not only on account of its disgusting figure, but from the bad taste of its flesh. However, succeeding observers contradict this last report, and assert, that its flesh is good and wholesome eating, and that three or four of them contain sufficient substance to dine a hundred men; but it is commonly salted and stored up for sea provisions.

TWO other birds have been mentioned by travellers, the one under the name of the *Solitary*, and the other the *Bird of Nazareth*; but there is great reason to believe they are merely varieties of the species of the dodo. The first is found in the Isle of Roderique, and its description scarcely varies from the one we have just mentioned; but from being more known, some particulars are mentioned which have not been so clearly ascertained as the dodo; such, for example, that they lay but one egg, and upon which they sit seven weeks; that they hatch towards the end of the year, and are much sought after by the inhabitants, from March to September, when they are very fat, and excellent food.

The *nazarine*, or *bird of Nazareth*, is found
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in the Isle of France, though supposed to be a native of the Isle of Nazareth, which opinion indeed is supported by its appellation. It is described as being larger than a swan, with the bill bent a little downwards, the body covered over with a blackish down, but that it has some frizzled feathers on the wings and rump.

OF RAPACIOUS BIRDS

IT is the same among the various species of birds as it is with those of quadrupeds, some classes being formed with carnivorous appetites, which lead them to seek the destruction of those they can subdue, while others are of a more gentle disposition, and harmlessly feed upon the productions of the earth; and thus, by peopling the woods with inhabitants of different dispositions, Nature has wisely provided for the multiplication of all; for could we suppose there were as many animals produced as there were vegetables supplied to sustain them, yet we should still find another class of animals that would procure a sufficient sustenance by feeding upon the vegetable feeders, either by destroying them through a rapacious disposition,

tion, or feasting on such as happen to fall by the course of nature. By this contrivance a greater multiplication is maintained, for certainly the number of animals would be but small were every one a candidate for the same food. Thus, by supplying a variety of appetites, Nature has provided for increasing and sustaining the multiplicity of her living productions.

Nature, however, has not contented herself with varying their appetites, but she has also varied their forms; and while she has given to some animals an instinctive passion for animal food, she has also furnished them with powers to obtain it. All land-birds of the rapacious kind are furnished with large heads and strong crooked beaks, notched at the ends, completely adapted, as it were, for the purpose of tearing their prey. They have strong short legs, and sharp crooked talons, which serve for seizing it. Their bodies are formed for war, being fibrous and muscular; and their wings for swiftness of flight, being well feathered and expansive. Those that seek their prey by day have an astonishing quick sight, while such as ravage by night have a sight so calculated as not to be obscured by the shadows of darkness.

Their internal conformation is equally adapted for the digestion of animal food. Their stomachs

machs are simple and membranous, are wrapped in fat to increase by warmth the powers of digestion, and their intestines are short and glandular. Their food being succulent and juicy, they want no length of intestinal tube to form it into proper nourishment; nor does flesh require a slow digestion to be converted into a substance similar to their own.

These rapacious species being thus formed for war, they lead a life of solitude, seeking out habitations in the most lonely places, either in the most desert plains or inaccessible rocks and mountains. They make their nests in the clefts of rocks, or on the tops of the highest trees of the forest. Whenever they appear in the cultivated plain or the sequestered grove, it is only for the purposes of depredation, and are ever gloomy intruders on the general joy of the harmless choristers, among whom they spread universal terror and dismay: all that variety of music, which but a moment before enlivened the grove, at their appearance is instantly at an end; each individual seeks for safety, either by concealment or flight; some fall and lay inanimate upon the earth, while others even venture to trust themselves in the habitations of men, to avoid their most merciless enemies. In general, however, the carnivorous

vorous bird declares war only against such as are in proportion to his size; the eagle disdains to destroy the lark, but pursues the bustard or pheasant, while the sparrow-hawk is the constant foe of the thrush and the linnet. Nature has also provided that each species should make war only on such as are furnished with means of escape. The smallest birds also avoid their pursuers by their extreme agility rather than the swiftness of their flight; for escape were impossible, if the eagle, to its own swiftness of wing, added the versatility of the sparrow.

The destructive tyranny of these animals is also more supportable from their being less fruitful than other birds, and breeding but few at a time. Those of the larger kind seldom produce above four eggs, and often but two; and those of the smallest never above six or seven. The pigeon, it is true, which is their prey, never brings forth above two at a time; but then she breeds every month in the year, whereas carnivorous kinds only breed annually, and of consequence their fecundity is small in comparison.

Being fierce by nature, they extend this savage disposition even to their young, which they force from the nest at a very early period.

Other

Other birds seldom forsake their young till completely able to provide for themselves; but the rapacious kinds expel them from the nest at a time when they still want protection and support. This severity to their young proceeds from the urgent necessity they feel of providing for themselves. All animals that, by the conformation of their stomach and intestines, are formed to live upon flesh, and support themselves by prey, though they may be mild when young, become fierce and mischievous by the habit of using those arms with which they are supplied by Nature. As it is only by the destruction of other animals that they can subsist, they become more furious every day; and even the parental feelings are overpowered in their general habits of cruelty; and it is principally from this cause, that if they find it difficult to procure a necessary supply, the old ones soon drive their brood from the nest to shift for themselves, and even sometimes doom them as victims to the craving of their own voracious appetites. It was at first remarked by Aristotle, and since confirmed by Buffon and other celebrated naturalists, that all animals with crooked talons were carnivorous; to this general distinctive characteristic, in the feathered race,

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the crooked beak may be added, and all, like quadrupeds of the cat kind, lead a lonely wandering life, and are only united in pairs by that instinct which overpowers their rapacious habits of enmity with all other animals. As the male and female are often necessary to each other in their pursuits, so they sometimes live together; but, except at certain seasons, they most usually prowl alone; and, like robbers, enjoy in solitude the fruits of their plunder.

All birds of prey are remarkable for one singularity, the origin of which is not easily to be discovered. All the males are about a third less, and much weaker than the females; which is exactly contrary to what occurs amongst quadrupeds, among whom the males are always the largest and boldest. The reason of this difference cannot proceed from the necessity of a larger body in the female for the purposes of breeding, and that her volume is thus increased by the quantity of her eggs; for in other birds, that breed much faster, and who lay in a much greater proportion, such as the hen, the duck, or the pheasant, the male is by much the largest of the two. Whatever the cause may be, certain it is, that the females, as Willoughby expresses
it,

it, are of the greatest size, more beautiful and lovely for shape and colours, and stronger, more fierce and generous, than the males. Whether it may be necessary for the female to be thus superior, from its being incumbent upon her to provide not only for herself but her young ones also, we cannot determine, but such is the fact*.

All rapacious birds, like carnivorous quadrupeds, are lean and meagre. Their flesh is stringy and ill-tasted, soon corrupting, and tintured with the flavour of that animal food upon which they commonly subsist. Nevertheless, Belon asserts, that many people admire the flesh of the vulture and falcon, and dress them for eating, when by any accident they are rendered unfit for the chase. He says also that the osprey, a species of the eagle, when young, is excellent food; but he contents himself with advising us, to breed these birds up rather for our pleasure in the field, than for supplying the table.

* Birds of prey, says Sonnini, have in general the muscles much stronger than other birds. Their crooked beak is sharp and solid; their eyes are large and sunk in the orbit; their feet are short, their toes long, and their claws crooked, short, and strong.

There are five kinds of land birds of a rapacious nature; namely, those of the eagle, the hawk, the vulture, the horned and the screech owl kind. The distinctive marks of this genus are taken from their claws and beaks: their toes are also separated; their legs are feathered to the heel; they have four toes, three before, and one behind; and their beaks are short, thick, and crooked.

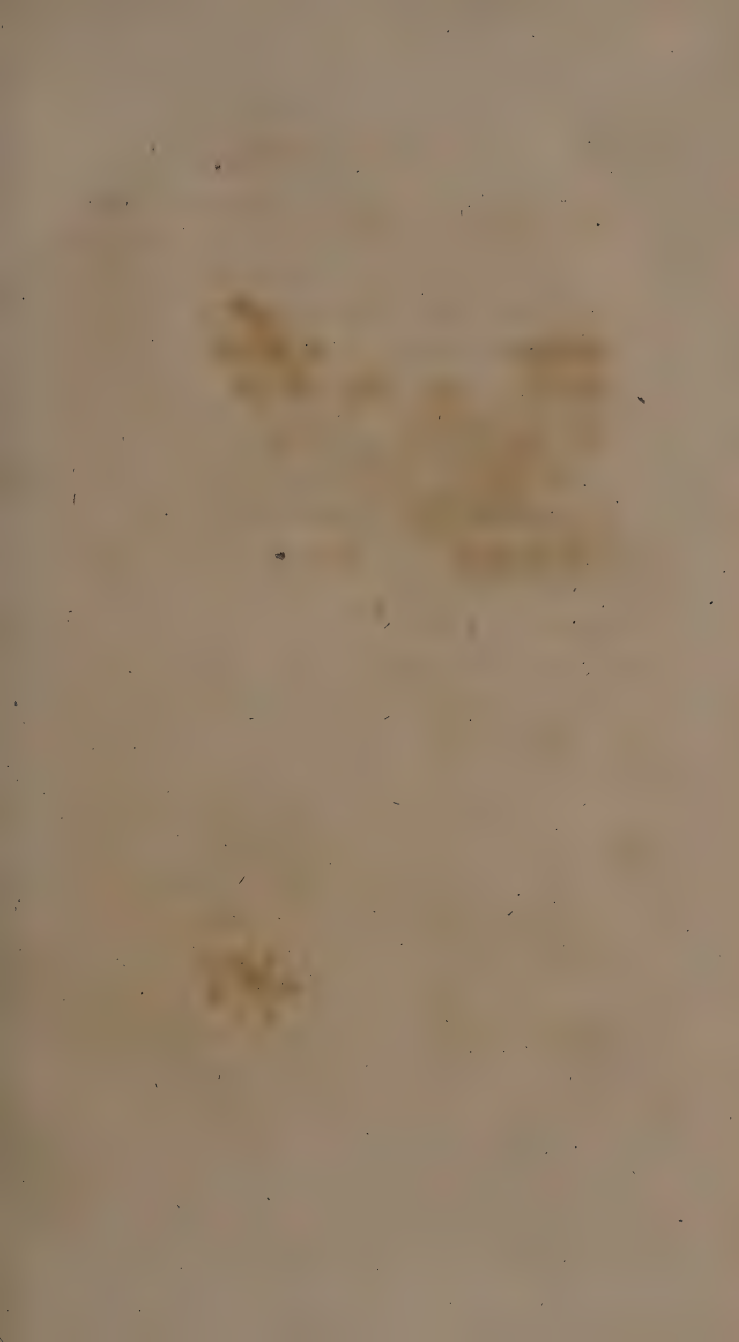
The eagle kind is distinguished from the rest by his beak being straight till towards the end, when it begins to hook downwards.

The vulture kind is distinguished by the head and neck being without feathers.

The hawk kind by the beak being hooked from the very root.

The horned owl by the feathers at the base of the bill standing forwards; and by some feathers on the head, that stand out, resembling horns.

The screech owl by the feathers at the base of the bill standing forward, and being without horns.





Eagle



Vulture

THE EAGLE, AND ITS AFFINITIES*.

THE Golden Eagle stands foremost among those birds which have received the name of Eagle, both on account of its size and courage; some of them measuring near four feet from the point of the bill to the end of the tail. Its wings, when extended, are more than six feet from point to point. The females are sometimes still larger (which, indeed, is the case with all rapacious birds), and weigh upwards of eighteen pounds, while that of the male is scarcely ever more than twelve. Its bill is three inches long, sharp, strong, crooked, and of a deep blue. Its eyes are of a hazel colour, and of the preservation of which Nature has taken peculiar care; for instead of one lid, or covering, as is the case with most other animals, naturalists assure us

* There are many birds to which the name of eagle is given: Nomenclators count eleven species in Europe, besides four other species, two of which belong to Brazil, one to Africa, and the last to the East Indies. These eleven species are, 1st, the common eagle; 2d, the eagle with a white head; 3d, the white eagle; 4th, the spotted eagle; 5th, the eagle with a white tail; 6th, the little eagle with a white tail; 7th, the golden eagle; 8th, the black eagle; 9th, the great sea eagle; 10th, the sea eagle; 11th, the *jean-le-blanc*.

that

that this has no less than four. Its sight and sense of smelling are very acute. Its head and neck are clothed with narrow sharp-pointed feathers of a deep brown colour, bordered with tawny, but those on the crown of the head, in very old birds, are grey. Its whole body is of a dark brown; and the feathers of the back are finely clouded with a deeper shade of the same. Its wings, when clothed, reach to the end of its tail, and the quill feathers are of a chocolate colour with the shafts white. The tail is of a deep brown, irregularly barred and blotched with an obscure ash-colour, and most of the feathers are usually white at the roots. Its legs are yellow, short, and very strong, being three inches in circumference, and feathered to the very feet. The toes are covered with large scales, and armed with four most formidable crooked talons, more than two inches long, and with which it seizes its prey.

These birds are found in Greece, France, Germany, in the mountains of Silesia, in the forests of Dantzic, and in the Carpathian mountains, in the Pyrenees, and in the mountains of Ireland. They are found also in Asia Minor, in Persia, and in many other parts of the old continent. They invariably select those places which are remotest from man, upon whose possessions they
but

but seldom make their depredations, rather preferring to follow the wild game in the forest, and be contented with a scanty subsistence, than to risk their safety to satisfy their hunger.

The Eagle may be considered among birds as the lion ranks among quadrupeds; and in many respects they have a strong similitude; they are both possessed of sufficient strength to preserve an empire over their fellows. Equally magnanimous, they disdain small plunder, and only pursue animals worthy the conquest. It is not till after having been long provoked, by the screams of the rook or the chattering of the magpie, that this generous bird thinks fit to punish them with death; the eagle also scorns to partake of the plunder of another bird, and will not devour any prey, but that which he has acquired by his own pursuits. However hungry he may be, he never stoops to carrion; and when satisfied he never returns to the same carcass, but leaves it for other animals, more rapacious and less delicate than himself. Solitary, like the lion, he prowls the desert alone; it is as extraordinary to see two pair of eagles in the same part of a mountain, as two lions in the same part of a forest. They keep separate, to find a more ample supply; and consider the quantity of their game as the best proof
of

of their dominion. Nor does the similitude of these animals stop here; they have both sparkling eyes, and nearly of the same colour; their claws are of the same form, their breath equally strong, and their cry equally loud and terrifying. Formed both for war, they are enemies to all society; alike fierce, proud, and equally difficult of being tamed. It requires great patience and much art to tame an eagle; and even though taken young, and subdued by long assiduity, he continues a dangerous domestic, and often turns his face against his master. When brought into the field for the purposes of fowling, the falconer is never sure of his obedience: his innate pride, and love of liberty, still prompt him to regain his native solitudes; and the moment the falconer sees him, when let loose, first stoop towards the ground, and then rise perpendicularly into the clouds, he gives up all his former labour for lost, quite sure of never beholding his late prisoner more. Sometimes, however, they are brought to have an attachment for their feeder; they are then highly serviceable, and liberally provide for his pleasures and support. In this case, when the falconer lets them go from his hand, they play about, and hover round him till their game appears in view, which they see at

at an immense distance, and pursue with certain destruction.

Of all birds the eagle flies the highest, which induced some ancients to call him the Bird of Jove, and others the *Celestial Bird*; he has also the quickest eye, but his sense of smelling is far inferior to that of the vulture*. He never pursues, therefore, but in sight; and when he has seized his prey he stoops from his height, as if to examine its weight, always laying it on the ground before he carries it off. Though his wing is very powerful, yet as he has but little suppleness in the joints of the leg, he finds it difficult to rise when down, especially when loaded; but nevertheless, if not instantly interrupted, he finds no difficulty in carrying off geese and poultry; he will also seize upon hares, lambs, and kids, and convey them away in his talons; he often destroys fawns, and calves, and having drank their blood, carries part of their flesh to his retreat. Even infants have been taken away by these rapacious creatures, which probably gave rise to the fable of Ganymede's being snatched up by an eagle to heaven.

* He does not rise to a very great height except when the sky is pure and serene; he keeps towards the earth when the atmosphere is charged with vapours and the clouds begin to collect.

Sir Robert Sibbald has recorded an instance which occurred in the Orkney Islands:--A woman, he says, having left her child of about one year old in a field while she went to some distance, an eagle passing by took up the infant by its clothes, and carried it to her nest on a neighbouring rock, which being accidentally observed by some fishermen, they instantly pursued the eagle, attacked her in her nest, and brought the child back unhurt.

The following story is related by a gentleman whose veracity stands unimpeached:--While upon his travels in France he was invited by an officer of distinction to pass a few days at his country-seat near Mende; while there, the table was every day plentifully supplied with wild fowl, but he was not a little surprised to observe that not one was served up which had not undergone some mutilation; some wanting wings, and others legs or heads: this being so invariably the case, he was at length induced to enquire into the cause; when his host replied it was solely to be attributed to the voracious appetite of his caterer, and who could not be prevented from first tasting what he had prepared. This, instead of allaying, rather excited curiosity, which the officer observing, he satisfied by explaining him-
self

self in this manner:--These mountainous parts of the kingdom are much frequented by eagles, who build their nests in the cavities of the neighbouring rocks; these are sought after by the shepherds, and who, having discovered one, erect a little hut at the foot of the rock, to screen themselves from the fury of these dangerous birds, which is particularly dangerous when they have young ones to supply with provisions; in this employ the male is sedulously engaged for the space of three months, and the female continues it until the young bird is capable of quitting the nest: when that period arrives, they force it to spring up in the air, where they support him with their wings and talons, whenever he is in danger of falling. While the young eagle continues in the nest, the parents ravage all the neighbouring country, and seize every kind of poultry, pheasants, partridges, hares, or kids, which come in their way, and all of which they bear to their young.

The shepherds being thus properly situated, watch the approach of the old ones with their food, who merely stay to deposit their cargo; and the moment they have left the nest, the shepherds mount the rocks and take away what the eagles have conveyed to their young, leav-

ing the entrails of some animal in its stead; but as this cannot be done so expeditiously as to prevent the young eagles from devouring part of their food, the shepherds are under the necessity of bringing our supply somewhat mutilated. This gentleman added, that when the young eagle has strength enough to fly, which being thus deprived of the excellent food its parents provide is much longer than common, the shepherds fasten it to the nest, that the old ones may continue the supply, which they do until the disagreeable task of providing for on offspring that perpetually fatigues them, obliges first the male and then the female to forsake it; after which their tenderness for another progeny makes them forget the former, whom the shepherds leave to starve, unless sometimes, actuated by the hopes of future gain, they assist to escape from the nest.

This story is in some measure corroborated by Smith, in his History of Kerry, who relates, that a poor man in that country got a comfortable subsistence for his family, during a summer of great scarcity, out of an eagle's nest, by robbing the young eagles of their food, which was plentifully supplied by the old ones. He protracted their assiduity also beyond the usual time,

time, by clipping the wings, and retarding the flight of the young; and very probably likewise by so tying them as to increase their cries, which is always found to hasten the parent's endeavours to procure them provision.

Another circumstance is related of a peasant who had resolved to rob the nest of an eagle, that had built in a small island in the beautiful lake of Killarney. He accordingly stripped and swam to the island, while the old ones were away, and having robbed the nest of its young, he was preparing to swim back, with the eaglets tied in a string; but while he was yet up to his chin in the water, the old eagles returned, and, missing their young, quickly fell upon the plunderer, and, in spite of all his resistance, dispatched him with their beaks and talons.

In order to extirpate these pernicious birds, there is a law in the Orkney Islands which entitles any person that kills an eagle to a hen out of every house in that parish in which the plunderer is killed. The eagles usually build their nests in the most inaccessible cliffs of the rocks, and in such parts as are shielded from the weather by some jutting crag that hangs over. It is sometimes, however, wholly exposed to the winds, both on the sides as well

as

as above, it being entirely flat, though built with great labour. Some naturalists assure us that the same nest serves the eagle during life; and indeed the pains bestowed in forming it seems to argue as much. One of these was found in the Peak of Derbyshire, which Willoughby thus describes:--“It was made of great sticks, resting one end on the edge of a rock, the other on two birch-trees. Upon these was a layer of rushes, and over them a layer of heath, and upon the heath rushes again; upon which lay one young one, and an addled egg; and by them a lamb, a hare, and three heath-pouts. The nest was about two yards square, and had no hollow in it. The young eagle was of the shape of a goss-hawk, of almost the weight of a goose, rough-footed, or feathered down to the foot, having a white ring about the tail.”

The female eagles of the larger species have seldom more than two eggs, and those of the smallest scarcely ever exceed three; and even of this small number a part is frequently addled; for it is extremely rare to find three eaglets in the same nest. It is strongly asserted, that the period of incubation is thirty days, and that as soon as the young ones are somewhat grown
the

the mother kills the most feeble, or the most voracious. If this be really true, it can only be attributed to the parent being incapable to provide for their support, and is therefore content to sacrifice a part to preserve the rest.

The plumage of the eaglets is at first white, then inclining to yellow, and when full grown of a light brown. Age, hunger, long captivity, and diseases, make them whiter; and it has been insisted on, by several naturalists, that the eagle sheds its feathers every year, as the stag does its horns, and the serpent its skin. It is said they live above a hundred years, and that they at last die not of old age, but from the beaks turning inward upon the under mandible, and thus preventing their taking any food. The Benedictine Monks of the Abbey of St. Bertrand, at St. Omer's, had an eagle living in 1745, which they insisted was, by tradition, upwards of three hundred years old. They are equally remarkable, says Mr. Pennant, for their longevity, and for their power of sustaining a long absence from food. One of this species, which has now been nine years in the possession of Mr. Owen Holland, of Conway, lived thirty-two years with the gentleman who made him a present of it; but what its age was when the latter

latter received it from Ireland is unknown. The same bird also furnishes a proof of the truth of the other remark ; having once, through the neglect of servants, endured absolute hunger for twenty-one days.

But this is still less extraordinary than an instance recorded by M. de Buffon, who was assured, by a person of veracity, that one of them being caught in a fox-trap, existed for five entire weeks without any aliment. It shewed no appearance of languor till the last eight days, and it was killed at length in order to deliver it from its sufferings. The eagle seldom drinks, its principal aliment being raw flesh, which contains in itself a sufficient quantity of moisture.

Those who keep eagles in confinement feed them with every kind of flesh, whether fresh or corrupted; and where there is a deficiency of that, bread or any other provision will suffice, as their rapacious appetite makes them little fastidious as to food. It is nevertheless very hazardous to approach them if not quite tame, as they are very apt to discover the ferocity of their dispositions; and they frequently send forth a loud piercing lamentable cry, which renders them still more formidable.

Such

Such are the general characteristics and habits of the eagle; however, in some of these habits they differ, as the Sea Eagle and the Osprey live chiefly upon fish, and consequently build their nests upon the sea-shore, and by the sides of rivers, on the ground among reeds: these lay three or four eggs, rather less than those of a hen, of a white elliptic form. They catch their prey, which is chiefly fish, by darting down upon them from above. The Italians compare the violent descent of these birds on their prey to the fall of lead into water; and call them *aquila plumbina*, or the Leaden Eagle.

The Bald Eagle of North Carolina is not less remarkable for habits peculiar to itself. These birds breed in that country all the year round. When the eaglets are just covered with down, and a sort of white woolly feathers, the female eagle lays again, and leaves these eggs to be hatched by the warmth of the young ones that continue in the nest; so that the flight of one brood makes room for the next, that are but just hatched. These birds fly very heavily, so that they cannot overtake their prey, like others of the same denomination. To remedy this, they often attend the osprey, which they pursue and strip of its prey. This is the more remarkable,

as this hawk flies by far the most swift of the two, but yet the eagle has a kind of presentiment of anticipating its course; and the osprey, by way of securing itself, drops the fish it had taken, which the eagle, with wonderful dexterity, is said to catch before it reaches the water. These eagles also generally attend upon fowlers in the winter; and when any birds are wounded, they are sure to be seized by the eagle, though they may fly from the fowler. This bird will often also steal young pigs, and carry them alive to the nest, which is composed of twigs, sticks, and rubbish, and is large enough to fill the body of a cart; it is commonly full of bones half eaten, and of putrid flesh, the stench of which is sensible at a considerable distance.

Besides the Golden Eagle, of which we have been treating, there are several varieties in this species; the distinctive characters of each are as follow:

The *golden eagle* (fig. 3) is of a tawny iron colour; the head and neck of a reddish; the tail a dirty white, marked with cross bands of tawny iron; and the legs covered down to the feet with tawny iron feathers.

The *common eagle* is of a brown, the head and upper part of the neck inclining to red; the

the tail-feathers white, blackening at the ends; the outer ones, on each side, of an ash colour, and the legs covered with feathers of a reddish brown. This bird is common in some parts of France and Italy, but much more so in Greece; they are often found upon the banks of the Danube, seeking their prey, which consists of kids, lambs, geese, serpents, &c. Mr. Johnson relates a story of a fox having killed a goose near the river Prille in Italy:—one of these eagles espying it, as he was hovering in the air, immediately descending, endeavoured to seize upon the goose as his prey: but the fox boldly resisting, a bloody battle ensued between him and the fox; but the former soon became master of the field, killed Reynard upon the spot, and carried off the prize*.

The *bald eagle*, brown over the body and wings, the head, neck, and tail-feathers white; and the feathers of the upper part of the legs brown.

The *white eagle*; the whole white: this in all probability is not a particular species, but a mere variety.

* This species of eagle is more common than the golden one; it is found in France, Savoy, Switzerland, Germany, Poland, Scotland, America, and Hudson's Bay.

The *rough-footed eagle* is of a dirty brown, spotted under the wings, and on the legs, with white; the feathers of the tail white at the beginning and the point; the leg feathers dirty brown, spotted with white.

The *white-tailed eagle* is a dirty brown over the body, the head white, the stem of the feathers black, the rump inclining to black; the tail-feathers, the first half black, the end half white, legs naked.

The *erne*, a dirty iron colour above, an iron mixed with black below; the head and neck ash, mixed with chesnut; the points of the wings blackish, the tail-feathers white, and the legs naked.

The *black eagle*, the body and wings nearly a black; the head and upper part of the neck mixed with red; the tail-feathers, the first half white, speckled with black; and the other half, blackish; the leg-feathers dirty white.

The *sea eagle*: the colour of this inclines to white, mixed with iron brown; the belly white, with iron coloured spots; the covert feathers (which are those small feathers that cover the bottom of the quill feathers) of the tail are whitish; the tail-feathers black at the extremity, and the upper part of the leg-feathers of an iron brown.

The

The *osprey* is brown upon the back, and white under the neck and belly; the back of the head white; the outward tail-feathers, on the inner side, streaked with white; and its legs are naked.

The *jean le blanc* is a brownish grey upon the back; white, spotted with tawny brown on its under parts; the tail-feathers on the outside and at the extremity, brown; on the inside, white, streaked with brown, and its legs naked. This eagle seems peculiar to France, and is not mentioned as having been seen in any other country.

The *eagle of Brasil*, blackish-brown; ash colour, mixed in the wings; tail-feathers white; and legs naked.

The *Oroonoko eagle* has a topping upon his head; his back and wings of a blackish brown, the under parts white, spotted with black; upper part of the neck yellow; tail-feathers brown with white circles; leg feathers white, and spotted with black.

The *crowned African eagle*, with a topping; the tail of an ash colour, streaked on the upper side with black. This eagle is found on the south coasts of Guinea, and chiefly in the province of Acra, and is there called the crowned eagle; at which place there is also another species,

cies, nearly black, to which the negroes pay such veneration, that it is a capital crime to kill one, although it destroys all their poultry and corn wherever it comes. From constantly frequenting muddy places it is always covered with filth, and yet it is esteemed by the natives as a deity, who daily boil meat for its food, and which they lay about such places as they know any one of them haunt.

The *eagle of Pondicherry*, a chesnut colour; the six outward tail-feathers black one half.

Besides these, authors have enumerated the *Chinese eagle*, which is of a reddish brown, with a bar of dark brown across the middle of the wing; the *white bellied eagle*; the *Japanese eagle*, which is finely variegated; the *oriental eagle*, the *Javan eagle*, the *fierce eagle* from Astracan, the *plaintive eagle* from Terra del Fuego, the *black-cheeked eagle*, the *spotted eagle*, the *Statenland eagle*, the *Russian* and *equinoxial eagles*, and the *Mansfeury*.

THE CONDOR.

THE Condor is a native of America, and hitherto Naturalists have been in doubt whether to refer it to the species of the eagle, or to that of the vulture. Its great strength, force, and vivacity, is supposed to give it a claim to rank among the former, while the baldness of its head and neck is thought to degrade it to the latter. It is, however, fully sufficient for our plan to describe its form and customs, and therefore shall leave nomenclators to decide upon its class. If size (for it is by much the largest bird that flies) and strength, combined with rapidity of flight, and rapacity, deserve pre-eminence, no bird can be put in competition with it; for the condor possesses, in a higher degree than the eagle, all the qualities that render it formidable, not only to the feathered kind, but to beasts, and even to man himself. Acosta, Garcilasso, and Desmarchais, assert, that

that it is eighteen feet across the wings when they are extended. The beak is so strong as to pierce the body of a cow ; and it is positively asserted that two of them are capable of devouring that animal. They do not even abstain from attacking man himself, but fortunately there are but few of the species. The Indians say that they will carry off a deer or a young calf in their talons, as eagles would a hare or a rabbit ; that their sight is piercing, and their manners terrific. They seldom frequent the forests, as they require a large space for the display of their wings, but are found on the sea shore, and the banks of rivers, whither they sometimes descend from the heights of the mountains. According to modern authors they only come down to the sea shore at certain seasons, particularly when their prey happens to fail them upon land ; that they then feed upon dead fish, and such other nutritious substances as the sea throws upon the shore ; and also that their countenance is not so terrible as the old writers have represented it, but from their aspect they appear to be of a milder nature than either the eagle or vulture.

Condamine says that he has frequently seen them in several parts of the mountains of Quito, and
observed

observed them hovering over a flock of sheep; and he thinks they would, at one particular time, have attempted to carry some of them off, had they not been scared away by the shepherds. Labat says, that this animal has been described to him, by those who have seen it, as having the body as large as that of a sheep; and that the flesh is tough, and as disagreeable as carrion. The Spaniards, residing in that country, dread its depredations, there having been many instances of its carrying off their children.

Mr. Strong, the master of a ship, relates, that as he was sailing along the coast of Chili, in the thirty-third degree of south latitude, he observed a bird sitting upon a high cliff near the shore, which some of the ship's company shot with a leaden bullet, and killed. They were greatly surprised when they beheld its magnitude, for when the wings were extended they measured thirteen feet from one tip to the other. One of the quills was two feet four inches long; and the barrel, or hollow part, was six inches and three quarters, and an inch and an half in circumference.

M. Feuillée, who is the only one that has accurately described it, has given a still more circumstantial account of this amazing bird. "In

the valley of Illo, in Peru," says he, "I discovered a condor perched on a high rock before me; I approached within gun-shot and fired; but, as my piece was only charged with swan-shot, the lead was not able sufficiently to pierce the bird's feathers. I perceived, however, by its manner of flying, that it was wounded; and it was with a good deal of difficulty that it flew to another rock, about five hundred yards distant on the sea shore. I therefore charged again with ball, and hit the bird under the throat, which made it mine. I accordingly ran up to seize it; but even in death it was terrible, and defended itself upon its back, with its claws extended against me, so that I scarce knew how to lay hold of it. Had it not been mortally wounded, I should have found it no easy matter to take it; but I at last dragged it down from the rock, and with the assistance of one of the seamen, I carried it to my tent, to make a coloured drawing.

"The wings of this bird, which I measured very exactly, were twelve feet three inches (English) from tip to tip. The great feathers, which were of a beautiful shining black, were two feet four inches long. The thickness of the beak was proportionable to the rest of the body;

body; the length about four inches; the point hooked downwards, and white at its extremity; the other part was of a jet black. A short down of a brown colour covered the head; the eyes were black, and surrounded with a circle of reddish brown. The feathers on the breast, neck, and wings, were of a light brown: those on the back were rather darker. Its thighs were covered with brown feathers to the knee. The thigh bone was ten inches long, the leg five inches; the toes were three before and one behind; that behind was an inch and a half, and the claw with which it was armed was black, and three quarters of an inch. The other claws were in the same proportion; and the leg was covered with black scales, as also the toes; but in these the scales were larger.

“ These birds usually keep in the mountains where they find their prey; they never descend to the sea-shore but in the rainy season, for as they are very sensible of cold, they go there for greater warmth. Though these mountains are situated in the torrid zone, the cold is often very severe; for a great part of the year they are covered with snow, but particularly in winter.

“ The little nourishment which these birds

find on the sea-coast, except when a tempest drives in some great fish, obliges the condor to continue there but a short time. They usually come to the coast at the approach of evening, stay there all night, and fly back in the morning."

Notwithstanding the claims which are confidently advanced by the American travellers, of having first discovered this bird, it is a matter of much doubt whether its species be confined to the New World, or have not been described by naturalists of other countries, though under different denominations: the great bird, for instance, called the rock, described by Arabian writers, and so much exaggerated by fable; the large bird of Tarnassar, in the East Indies, which is larger than the eagle, and the vulture of Senegal, which carries off children, are probably no other than the bird we have been describing. Russia, Lapland, and even Switzerland and Germany, are said to have known this animal. A bird of this kind was shot in France, that weighed eighteen pounds, and was said to be eighteen feet across the wings; however, one of the quills was described as only being larger than that of a swan, so that probably the breadth of the wings may have

have been exaggerated, since a bird so large, agreeably to analogy, would have the quills more than twice as big as those of a swan. It is, however, scarcely ever seen in Europe. In the deserts of Pachomac, where it is most common, men seldom venture to travel. "Those wild regions," says a modern writer, "are sufficient of themselves to inspire a secret horror---broken precipices---prowling panthers---forests only vocal with the hissing of serpents---and mountains rendered still more terrible by the condor, the only bird that ventures to make its residence in those deserted situations."

THE VULTURE.

FOR the same reasons that the lion holds the first rank among quadrupeds, the eagle is placed at the head of the feathered tribe, not because they are stronger or larger than the tiger or vulture, but because they are more bold and generous. The eagle, unless pressed by famine, will not stoop to carrion; and never devours but what he has earned by his own pursuit. The vulture, on the contrary, is indelicately voracious; and

and seldom attacks living animals, when it can procure dead carcasses. The eagle meets and singly opposes his enemy; but the vulture, (*fig. 4*) if it anticipate resistance, calls in the aid of its kind, and basely overpowers its prey by a cowardly combination: they are rather thieves than warriors, rather birds of carnage than birds of prey; for, in this species, they alone assemble in numbers against one; they alone repast on putrid carcasses even to the bone. Putrefaction and stench, instead of deterring, only serve to allure them: in a word, he is deficient in every respectable quality, and is even more detestable among birds than the jackall or the hyæna among quadrupeds.

Vultures may be easily distinguished from all the species of the eagle by the nakedness of their heads and necks, which are without feathers, and only covered with a very slight down, or a few scattered hairs. Their eyes are more prominent, from not being buried so much in the socket as those of the eagle. Their claws are shorter and less hooked. The inside of their wings is covered with a thick down, and which is different in them from all other birds of prey. When upon the ground, their attitude is not so upright as that of the eagle;

eagle; and their flight more difficult and heavy.

Singular as these particulars would have rendered them, they are still more strongly marked by their disposition, which, as we have already observed, is cruel, unclean, and indolent. Their sense of smelling, however, is amazingly great; and Nature, for this purpose, has given them two large apertures or nostrils without, and an extensive olfactory membrane within. Their internal structure is different from that of the eagle, and partakes more of the formation of such birds as live upon grain. They have both a crop and a stomach; which may be regarded as a kind of gizzard, from the extreme thickness of the muscles of which it is composed; in short, they seem adapted inwardly, not only for being carnivorous, but to eat corn, or whatsoever of that kind comes in their way; and which they pretty generally put in practice.

The vulture is common in many parts of Europe; it is too well known on the western continent, but is totally unknown in England. In Egypt, Arabia, and many other kingdoms of Africa and Asia, vultures are found in great abundance. The inside down of their wing

wing is converted into a very warm and comfortable kind of fur, and is commonly sold in the Asiatic markets.

Obnoxious as this bird must be from his voracious characteristics, yet he seems to be of singular service. There are great flocks of them in the neighbourhood of Grand Cairo; not one of which is permitted to be destroyed, because they devour all the carrion and filth of that great city, and which might otherwise tend to corrupt and putrify the air. It is very common there to see them in company with the wild dogs of the country, and tearing a carcass very deliberately together. This peculiar association produces no quarrels; the birds and quadrupeds feed amicably upon one piece of carrion, and nothing but harmony subsists between them; and this appears the more astonishing, as both are extremely rapacious, and both lean and bony to a very great degree; probably from not having any great plenty even of the wretched food on which they subsist.

In America, they lead a life somewhat similar. Wherever the hunters, who there pursue beasts for the skins only, are found to go, these birds are seen to pursue them. They keep

keep hovering at a little distance; and when they see the beast flayed and abandoned, they call to each other, pour down upon the carcass, and pick its bones as bare and clean as if they had been scraped by a knife.

According to Herodotus, however, this attendance is totally unnecessary, for he says they can smell a dead carcass at the distance of fifteen thousand paces, and to this he principally attributes the circumstance of a field of battle being constantly covered the day after an engagement with flocks of these birds, feeding on the slaughtered carcasses of both men and horses.

Kolbe has related some very curious circumstances of this bird; "I have often," says this author, "while residing at the Cape of Good Hope, been a spectator of the manner in which they anatomize a dead body: I say anatomize, for no artist in the world could have done it more cleanly. They have a wonderful method of separating the flesh from the bones, and yet leaving the skin quite entire. Upon coming near the carcass, no one would suppose that it was thus deprived of its internal substance, till he began to examine it more closely; he then finds it, literally speaking, nothing but skin and bone.

“ Their manner of performing the operation is
 “ this: they first make an opening in the belly
 “ of the animal, from whence they pluck out
 “ and greedily devour the entrails; then, enter-
 “ ing into the hollow which they have made,
 “ they separate the flesh from the bones, with-
 “ out ever touching the skin. It often hap-
 “ pens than an ox returning home alone to its
 “ stall from the plough, lies down by the way;
 “ it is then, if the vultures perceive it, that
 “ they fall with fury down, and inevitably de-
 “ vour the unfortunate animal. They some-
 “ times attempt them while grazing in the fields;
 “ and make their attack all together, to the
 “ number of a hundred or more.”

Some authors have been inclined to give cre-
 dit to the common opinion, that the vulture
 never destroys or feeds upon any thing that
 has life; but no conclusion can possibly be
 more unfounded; for they are mortal enemies
 to almost all kind of poultry, hares, and young
 kids.

“ They are attracted by carrion,” says
 Catesby, “ from a very great distance. It is
 “ pleasant to behold them, when they are thus
 “ eating, and disputing for their prey. An
 “ eagle generally presides at these entertain-
 “ ments, and makes them all keep their dis-
 “ tance

“ tance till he has done. They then fall too
“ with an excellent appetite: and their sense
“ of smelling is so exquisite, that the instant a
“ carcass drops, we may see the vultures float-
“ ing in the air from all quarters, and come
“ sousing on their prey.” When they can
come at lambs, they shew no mercy; and ser-
pents are their ordinary food. Albertus says,
they wound their prey with only two of their
talons, and carry it off with the others. It is
a common practice with these birds to perch,
several together, on old pine and cypress-trees,
where they continue in a morning, for several
hours, with their wings unfolded: they are not
by any means apprehensive of danger, but will
suffer themselves to be approached very near,
particularly when they are eating, without dis-
covering the smallest signs of fear.

The filth, idleness, and voracity of these
birds, almost exceed credibility. In the Brasils,
where they are found in great abundance, when
they light upon a carcass, which they have li-
berty to tear at their ease, they so gorge them-
selves, that they are unable to fly, and if pur-
sued, can only attempt their escape by hop-
ping along; but when hard pressed, they get
rid of their burthen, by vomiting up what they
have eaten, and then fly off with as much speed

as possible. They are, however, at all times slow of flight.

There is a species of hostilities always existing between almost all kinds of rapacious animals; but of all creatures, the two most at enmity are the vulture of Brasil and the crocodile. The female crocodile, which in the rivers of that part of the world has been known to grow to the length of twenty-seven feet, lays its eggs sometimes to the number of two hundred, in the sands, on the side of the rivers, where they are hatched by the heat of the climate. Leaving them for this purpose, she takes every precaution to hide from all other animals the place where they are deposited; but the vultures, or galinasses, as the Spaniards call them, conceal themselves in the branches of some neighbouring forest, where they sit in perfect silence, patiently watching the crocodile's operations, with the pleasing hopes of the expected plunder. They remain in this manner until the crocodile has laid the whole number of her eggs (all of which she carefully covers under the sand) and has retired to a considerable distance from them; when, all together, encouraging each other with their cries, they pour down upon the place, hook up the sand

sand in a moment, lay the eggs bare, and devour the whole brood without remorse. The flesh of these animals is, however, almost beyond conception bad, yet there have been instances of men, when pressed with hunger, endeavouring to eat it; nothing in fact can be more lean, stringy, nauseous, and unsavoury. It is in vain that, when killed, the rump has been cut off; in vain the body has been washed, and spices used to overpower its prevailing odour; it still smells and tastes of the carrion by which it was nourished, and sends forth a stench that is insupportable. These birds, as far as we have been able to discover, usually lay two eggs at a time, and produce but once a year. They make their nests in inaccessible cliffs, and in places so remote that they are seldom met with. Those in our part of the world chiefly reside in the places where they breed, and seldom come down into the plains, except when the snow and ice, in their native retreats, have banished all living animals but themselves: then they come from their heights, and brave the perils they must encounter in more cultivated regions. As carrion is not found, at those seasons, in sufficient quantity, or sufficiently remote from man to sustain them, they prey
upon

upon rabbits, hares, serpents, and whatever small game they can overtake or overpower.

Such are the principal characteristics of the vulture; and the most remarkable tribes of this species are as follow: at the head of them we must place what is called the *King of the Vultures**, which, from its extraordinary figure, deserves a particular description. This bird is a native of America, and not of the East-Indies, as it is frequently pretended; it is larger than a turkey-cock, and particularly remarkable for the formation of the skin of the head and neck, which is bare. This skin arises from the base of the bill, and is of an orange colour, whence it stretches on each side to the head, then extends like an indented comb, and falls on either side, according to the motion of the head. The eyes are surrounded by a skin of a scarlet colour, and the iris has the colour and lustre of a pearl. The head and neck are without feathers, covered with a flesh-coloured skin on the upper part, a fine scarlet behind the head, and a dusky brown before: farther

* This animal is neither clean, generous, nor noble; he only attacks weak and defenceless animals, and nourishes himself upon rats, serpents, lizards, and even the excrements of beasts and men; hence he has a very bad smell, and the savages even cannot eat his flesh.

down

down behind the head arises a little tuft of black down, from whence issues and extends beneath the throat, on each side, a wrinkled skin, of a brownish colour, mixed with blue and reddish brown. At the bottom of the neck, just above the shoulders, there is a ruff, or collar, formed with soft, long feathers, of a deep ash colour, which surround the neck, and cover the breast before: into this collar the bird sometimes withdraws its whole neck, and even a part of its head; so that it looks as if it were headless. The body is of a reddish brown, the belly white, with a tinge of yellow, and the stem of the quills black. These marks are sufficient to distinguish this race from all the others of the vulture kind, although neither its habits nor instincts vary from the rest of the tribe, being, like them, a slow cowardly bird, living chiefly upon rats, lizards, serpents, and all sorts of carrion that comes in its way.

The *golden vulture* has many characteristics like the golden eagle, but it is larger in every proportion. From the end of the beak, to that of the tail, it is four feet and an half; and to the end of the claws forty-five inches. The length of the upper mandible is almost seven inches; and the tail twenty-seven in length:

The

The lower part of the neck, breast, and belly, is of a red colour, black on the back, and the wings and tail of a yellowish brown.

Linnæus describes the *Alpine vulture* as being wholly white in the male; the quills black, with grey edges, except the two outer ones, which are entirely black; and the female has quite brown, except the four outer quills, which are black, and which in size exceed the common eagle.

The *fulvous vulture*, or *grisson*, is about three feet six inches in length, and eight feet in the wings. The head, neck, and ruff, are white; the back reddish grey; the quills and tail black; the breast bare of feathers, and covered with downy hair.

The *cinereous vulture* is rather larger than the common eagle. The head and neck are covered with brown down, and beneath the throat there is a kind of beard. The body is brown, and the legs are feathered down to the toes. The last three inhabit parts of Europe.

The *hare vulture* is smaller than all the preceding. It is of a shining reddish black, the breast inclining to yellow. It is found in many parts of Europe and Asia. When it is sitting
or

or standing, it erects a crest on its head, which is not apparent when flying.

The *ash-coloured* or *small vulture* is the size of a large cock. It is generally of a sooty grey, spotted with chesnut, and the head and neck white.

The *carrion vulture* is a species found in vast flocks in all parts of America, where they are of great utility in destroying snakes and vermin, and devouring the dead and putrid carcasses. This bird is full as large as a turkey. Its head and neck are bare of feathers, and of a reddish colour, and the sides of the head warted like those of a turkey. The plumage of the wings and back is a brownish black, with a purple and greenish gloss in different parts.

The *Egyptian vulture* is much of the same nature, but is not larger than a kite.

The *secretary* is common in the southern part of Africa. It is full three feet in height; the bill black, and like that of an eagle; on the upper eyelid there are bristles, like eye-lashes, and from the back of the head springs a beautiful pendant crest. The body in general is ash-coloured, and the tips of the wings are black.

Besides these, naturalists have mentioned the *crested vulture*, the *Arabian vulture*, the *bearded*

vulture, the *black vulture*, the *Angola* and the *Bengal vultures*, the *tawny vulture*, and many others, but which there is great reason to conclude are mere varieties of the above.

THE FALCON AND ITS AFFINITIES.

ALTHOUGH the birds of which we are now about to treat are considerably smaller than any of the preceding, yet they are no less important to man, from contributing to his pleasures. Formerly they must have been particularly so; for notwithstanding the sport of hawking is little practised in the present day, and almost entirely disused in this kingdom, from the impediments thrown in its way by the multiplicity of modern inclosures, yet it was the principal amusement of our ancestors. Formerly a person of rank scarce stirred out without his hawk on his hand, and in old paintings this appendage is considered as the criterion of nobility. Harold, before he was king of England, went on a most important embassy into Normandy, and which circumstance is recorded by an old painting, in which he is drawn as embarking with

with a bird on his fist, and a dog under his arm. "In those days," says Goldsmith, "it was thought sufficient for noblemen's sons to wind the horn, and to carry their hawk fair." But, indeed, this diversion has been in such high esteem among the great all over Europe, that Frederic, one of the Emperors of Germany, thought it not beneath him to write a treatise upon hawking. This sport, however, was attended with very great expence, and in some instances productive of honours.

Among the old Welch princes, the king's falconer was the fourth officer in the state; but, notwithstanding all his dignity, he was forbidden to take more than three draughts of beer from his horn, lest he should get drunk and neglect his duty. In the reign of James the First, Sir Thomas Monson is said to have given a thousand pounds for a cast of hawks; and such was their value in general, that it was made felony in the reign of Edward the Third to steal a hawk. To take its eggs, even in a person's own ground, was punishable with imprisonment for a year and a day, together with a fine at the king's pleasure. In the reign of Elizabeth, the imprisonment was reduced to three months; but the offender was to lie in prison till he got security for

his good behaviour for seven years. The art of shooting being in those days but little known, and less practised, the hawk was doubtless valuable, not only as it afforded diversion, but as it procured those delicacies for the table, which without its aid could scarcely ever be obtained.

Many of the falcons which were formerly used for this purpose are at this time known only by name, their species being so ill described, that they are easily mistaken for each other*. Of those in use at present, both in this and other countries, are the gyr-falcon, the falcon, the lanner, the sacre, the hobby, the kestrel, and the merlin. These are called the *long winged hawks*, to distinguish them from the goss-hawk, the sparrow-hawk, the kite, and the buzzard,

* There is no essential difference between the falcons of different countries, except in their size; those which come from the north are in general larger than those of the mountains of the Alps and Pyrenees. The age of falcons is easily known in the second year, that is at the first moulting; but afterwards it is very difficult to ascertain it with precision, independently of the change of colour: they may be known as far as the third moulting from the colour of the feet and that of the membrane of the beak.

which

which have shorter wings, and are either too slow, too cowardly, too indolent, or too obstinate, to be trained to the sports of the field. The wings of those in the first class reach nearly as low as the tail ; the first quill of the wing is nearly as long as the second, (which is always the largest) and terminates in a point, which begins to diminish from about an inch of its extremity. In the latter race, the tail is longer than the wings, the first feather of the wing is rounded at the extremity, and the fourth feather of the wing longer than any of the rest.

The first race, which have been taken into the service of man, are also endowed with superior natural powers. From the length of their wings, they are swifter to pursue their game; from a confidence in this swiftness, they are bolder to attack it; and from an innate generosity, they have an attachment to their feeder, and consequently a docility which the baser birds are strangers to.

The *gyr-falcon* stands at the head of this genus. He exceeds all other falcons in size, and nearly approaches the magnitude of the eagle. The top of his head is flat, and of an ash colour. The beak is blue, strong, short,
and

and crooked. The feathers of the back and wings are marked with black spots upon a dark ground, in the shape of a heart. He is a courageous and fierce bird, nor fears even the eagle himself; but chiefly flies at the stork, the heron, and the crane. He is mostly found in the colder regions of the North, but loses neither his strength nor his courage when brought into the milder climates.

The *falcon*, properly so called, is the second in magnitude and fame. There are several varieties in this species; but there seem to be only two that claim distinction; the falcon gentil, and the peregrine falcon, both of which are about the size of a raven; and they differ but slightly either in shape or colour, being, like most of this race of birds, of a dark brown, intermixed with black ash-coloured feathers; the breast generally lighter than the back. The falcon gentil moults in March, and often sooner, but the peregrine falcon does not moult till the middle of August. The principal difference between them consists in the latter being the strongest in the shoulders, having larger eyes, and yet more sunk in the head; his beak is stronger, his legs longer, and his toes more distinctly divided.

The

The *lanner* stands next in size, but he is little known in Europe; he is followed by the *sacre*, the legs of which are of a bluish colour, and by which he is distinguished. To them succeeds the *hobby*, commonly used for smaller game, for daring larks and stooping at quails. The *kestrel* was also trained for the same purposes; as was lastly the *merlin*, which though the smallest of all the hawk or falcon kind, and not much larger than a fieldfare, yet, for vigour and spirit, gives place to none: he strikes his prey with so much violence, as often to kill a quail or partridge with a single stroke: this also differs somewhat in colour from the rest, the feathers on the back being shaded with a light blue, and his wings spotted with a rusty colour; his breast is a dirty white, with dark spots, his legs yellow, and black talons. While hawking was in general use, those fond of the sport would endeavour to train some of the other tribes, but that was only when they could not procure any of the above, which were always considered as a superior race. It is said that their courage in general was such, that no bird, not very much above their own size, could terrify them; their swiftness so great, that scarcely any bird could escape them;

them; and their docility so remarkable, that they obeyed not only the commands but the signs of their master. They remained quietly perched upon his hand till their game was flushed, or else kept hovering round his head, without ever leaving him but when he gave permission. The common falcon is a bird of such spirit, that he keeps all other birds in awe and subjection. When he is seen flying wild, the birds of every kind, that apparently disregard the kite, or the sparrow-hawk, fly with screams at his most distant appearance. The young falcons, even though their spirit be depressed by captivity, will, when first brought out into the field, venture to fly at barnacles and wild geese, till, being soundly brushed and beaten by those strong birds, they learn their error, and desist from meddling with such unwieldy game.

To train up the hawk to this kind of obedience, so as to hunt for his master, and bring him the game which he kills, requires no small degree of skill and assiduity. Numberless treatises have been written on this subject, which are now, with the sport itself, almost utterly forgotten: indeed, they seem almost unintelligible; for the falconers had a language peculiar

liar to themselves, and took a kind of professional pride in using no other. A modern reader would be little edified by one of the instructions, for instance, which we find in Willoughby, when he bids us *draw our falcon out of the mew twenty days before we enseam her. If she truss and carry, the remedy is, cosse her talons, her powse, and petty single.*

But as it certainly makes a part of natural history to shew how much the nature of birds can be wrought upon by harsh or kind treatment, we shall give a short account of the manner of training a hawk, divested of those cant words with which professional men too often envelop their descriptions.

Much pains were taken in the first instance to procure a supply from the nest, as those were by far more easily tamed than such as had for some time enjoyed their liberty; although by perseverance the latter might be rendered equally tractable. The first step was to place straps upon the legs, which were called *jesses*, to which was fastened a ring with the owner's name, that in case he should be lost, the finder should know where to bring him back. To these also were added little bells, which served to mark the place where he was, if lost in

the chase. The falconer then proceeded to his task, and as settling on the hand was of material consequence, this was attended to with care, and for which purpose he was constantly carried on the fist, and obliged to keep without sleep, sometimes for three days and nights together, and without being supplied with any food. If he was stubborn and attempted to bite, his head was plunged into water, and thus, by hunger, watching, and fatigue, he was constrained to submit to having his head and eyes covered with a hood, or cowl, without resistance; and it rarely happened but at the end of this time his necessities, and the privation of light, had made him lose all idea of liberty, and subdued his natural wildness. He was considered as being tamed when he permitted his head to be covered without resistance, and when uncovered, he seized the meat before him contentedly. The repetition of these lessons by degrees ensured success. His wants being the chief dependence upon which any reliance could be placed, endeavours were made to increase his appetite by giving him little balls of flannel, which he greedily swallowed. Having thus excited his appetite, they instantly supplied him with the means of satisfying it; and thus

thus gratitude attached the bird to the man who had just before been his tormentor.

When the bird shewed signs of docility, he was carried out upon some green, with his head uncovered, and by being flattered with food at different times, he was taught to jump on the fist, and to continue there. When confirmed in this habit, it was then thought time to make him acquainted with the lure. This lure was a thing stuffed like the bird the falcon was designed to pursue, such as a heron, a pigeon, or a quail, and on this lure they always took care to give him his food; not merely such as he would eat, but that of which he was most fond: it was the practice of some falconers, when the bird had flown upon the lure and tasted the food, to take it away; but this was found to check his courage and assiduity, and the most advantageous method was to let him feast as long as he chose, by way of recompensing him for his docility. The use of this lure was to draw him back when he had flown into the air, and which it was always requisite to assist by the voice and certain signs of his master, with which he must be rendered familiar; and to do this it was necessary to study the character of the bird; to speak frequently

quently to him if he be inattentive to the voice; to stint in his food such as do not come kindly or readily to the lure; to keep him waking if he be not sufficiently obedient, and to cover him frequently with a hood if he fears darkness. When the familiarity and the docility of the bird were sufficiently confirmed, they carried him into the open fields, but still kept fast by a string, about twenty yards long, until by practice he would fly to the lure from its greatest distance: this being taught him by degrees, he was then shewn the game itself alive, but disabled or tame, which he was designed to pursue. After having seized this several times with his string, and began to discover a fondness for the sport, he was relieved from his shackles, and trusted to pursue the uncaught game that floated in the air. In almost the first instance they would fly at it with avidity, and having seized, would bring it to their master, either in obedience to his voice, or attractions of the lure.

By this method of instruction a hawk may be taught to fly at any game whatever; but falconers chiefly confined their pursuit to such animals as yielded them profit by the capture, or pleasure in the pursuit. The hare, the partridge,

partridge, and the quail, repay the trouble of taking them; but the most delightful sport is the falcon's pursuit of the heron, the kite, or the woodlark. Instead of flying directly forward, as some other birds do, these, when they see themselves threatened by the approach of the hawk, immediately take to the skies. They fly almost perpendicularly upwards, while their ardent pursuer keeps pace with their flight, and tries to rise above them. Thus both diminish by degrees from the gazing spectator below, till they are quite lost in the clouds; but they are soon seen descending, struggling together, and using every effort on both sides; the one of rapacious insult, the other of desperate defence. The unequal combat is soon at an end; the falcon comes off victorious, and the other, killed or disabled, becomes a prey to the bird or the sportsman.

Other birds are not so much pursued; for, as they generally fly straight forward, the sportsman loses sight of the chace, and what is still worse, runs a chance of losing his falcon also. The pursuit of the lark by a couple of merlins, is considered, by him who regards the sagacity of the chace, as one of the most delightful spectacles.

spectacles this exercise can afford. One of the merlins soars with all its might to get the ascendancy of the lark, while the other remains below waiting the success of its companion's efforts; thus while the one stoops to strike its prey, the other seizes it at its coming down.

A somewhat similar practice is related by an ancient historian as common at Chili, where he says the Indians make use of them to catch a bird which they call *quulteu*, and which are pretty numerous among their marshy grounds. The sportsman, on seeing his game, throws up one of his falcons, who, as though indifferent to the object of pursuit, endeavours not only to get as high as he can, but also to get the wind of him; to this, however, the *quulteu* is not inattentive, but instantly contends with his enemy for this pre-eminence of situation, so that they ascend nearly out of sight: but the falcon having the better wing is sure to gain the advantage, and this he no sooner perceives than he instantly darts with incredible swiftness upon his prey. Against this first attack the *quulteu* defends himself either by avoiding the blow, or by opposing some armed points he has on his wings, and by which the unwary hawk

hawk is often wounded in the breast. When the engagement continues for any length of time, the sportsman lets go his other hawk to assist the first, and who, being fresh, soon joins his companion, and both fall upon the poor *quulteu*, but not at the same time, lest they should be in one another's way, but first one gives him a blow, and then the other; so that although the bird makes a good defence, still he is obliged to yield to this superior force, but which, however, he does not do before making for the water, which is the last retreat to defend his life. Here lying upon his back, with the sharp points of his wings turned up, he expects his enemies; the falcon, despising the danger, comes down with all his force, and seizing him with one foot soon puts a period to his existence, but not without sometimes receiving very dangerous wounds.

It is related also, that in these countries they are taught to fly at the most ferocious animals, and for this enterprise they are instructed by the skin of an animal being stuffed, and part of the head being filled with the kind of food the hawk is the most fond of, particularly the cavities of the eyes, which being shewn him, he

he is allowed nothing to eat but what he can pick from thence. The figure thus prepared is moved while the bird is feeding; at first very slowly, increasing, however, by degrees until it is dragged backwards and forwards with great rapidity: by this means the bird is learned to fasten himself on the skull, since he soon becomes conscious that he shall lose his meal if he once quits his hold. When he has been some time exercised in this manner, the stuffed skin is placed on a kind of car, and although the horse is driven at full speed, the bird will follow and fix upon the head, notwithstanding the swiftness of the motion. Thus tutored, if thrown up by his master, he never fails to fasten on the head of the first of those animals with which he has been trained that comes in view, and having been in the habit of procuring food from the cavities of the eyes, he immediately begins to scoop them out, which, throwing the creature into agonies, obliges him to stop, and thus give the hunters time to approach and kill him without danger.

Such are the natural and acquired habits of these birds, which of all others have the greatest strength and courage in proportion to their size.

The



FIG.7.
The Kite.



FIG.9.

FIG.8.

Barn Owl

Horned Owl

The kite, or the goss-hawk, approach their prey sideways, but these dart perpendicularly, in their wild state, upon their game, and devour it on the spot ; or carry it off, if not too large for their power of flying. They sometimes descend perpendicularly from the clouds, from an amazing height, and dart on their prey with inevitable swiftness and destruction. The inferior race of rapacious birds make up by cunning and assiduity what these claim by force and celerity. Being less courageous, they are more patient ; and having less swiftness, they are better skilled at taking their prey by surprise.

Of this order the *kite* (*fig. 7*) seems to stand foremost for assiduity and cunning ; he has a strong, black, crooked bill, his eyes large, and placed prominently in his head, which as well as the upper part of his breast is of an ash-colour, a little shaded by the stem of the feathers, having dark lines, and which are quite black upon the neck ; his back is of a dusky brown, the middle of the feathers inclining to black as they approach the tail. The lesser rows of the wing-feathers are of a party-colour black, red and white, the outside ones being principally red, spotted with black ; his tail is broad and forked at the end, of a dark red, with black

strokes towards the extremity; the tips of all his feathers are of a light shade; his legs and feet are yellow, and his talons black. The kite may be distinguished from all the rest of his tribe by his forked tail and his slow floating motion, which makes him appear to rest upon the bosom of the air, and not to make the smallest effort in flying. He is almost always on the wing, and which indeed is somewhat necessary, as he lives only upon accidental carnage, every bird in the air being able to make good its retreat against him. He is, therefore, constantly prowling about, and when he finds a small bird wounded, or a young chicken strayed too far from its mother, he takes advantage of the hour of calamity, and, like a famished glutton, is sure to shew no mercy*. His hunger, indeed, often urges him to acts of seeming desperation;

* Kites are altogether a cowardly animal. Two of them together will pursue a bird of prey in order to get from him by trick whatever he is carrying, rather than pounce upon him at once; even ravens will dare them, and drive them away: they are as greedy and voracious as they are cowardly; they will take from the edge of the water small dead fish and half corrupted; they will feed upon the grossest garbage. A young pigeon was once given to a kite that had been brought up by some children in a house, and he swallowed it whole, feathers and all together.

he

he will hover over a clutch of chickens for a considerable time, and then, on a sudden, dart upon one of them and carry it off, notwithstanding the cries of the hen, and even though boys stand hooting and casting stones to scare it from its plunder.

The kite is the best known of all this species, although the *Buzzard* among us is the most plenty. This bird is bigger than a pheasant; he has a large head, and flat crown, with a short hooking bill, of a bluish colour; the upper part of his body is of a darkish dun; some of them have white spots in the upper feathers of the wings, which, when spread, have the appearance of a white line, somewhat like what is seen upon the back and shoulders; the extreme edges of the feathers are of a dirty yellow, the belly of a yellowish white, with rusty spots on the breast; he has a sort of bristles, or hair, between the eyes and nostrils, and a large down upon the middle of the back, which is covered with the scapular feathers. The thighs are large and fleshy, and feathered below the knees; the legs and feet are yellow, and covered with scales. He is a sluggish inactive bird, and often remains perched whole days together upon the same bough. He feeds upon small

birds, mice, moles, and rabbits, the latter of whom he watches with peculiar subtlety. He lives in summer by robbing the nests of other birds, and sucking their eggs, and in his countenance he resembles the owl more than any other rapacious bird of day. They commonly lay from two to four white eggs, with small reddish spots. His figure implies the stupidity of his disposition; and so little is he capable of instruction from man, that it is proverbial to call one who cannot be taught any thing, a *buzzard*.

The *honey buzzard* is about the size of a common buzzard, and nearly resembles it in the shape of the body: the head of this is a sort of ash colour: the bottom part of the feathers on the back are whitish, and the upper ones of a mouse dun: the tips of the flag-feathers, and those in the second or third rows of the wings, are white; those on the breast, belly, and tail, are white, intermixed with black spots: its legs and feet are yellow, and feathered below the knee. This bird will run very swift, and for a considerable way, before it takes wing; and in its motion it is very like a common hen; it builds a nest of small twigs, which it covers with wool, or soft down, and upon which it lays its eggs and hatches its young.

The



FIG. 6.

Honey Buzzard.



FIG. 5.

Falcon.

The *moor buzzard* is considerably less than the other two; its whole body is a kind of rusty brown colour, except the top of the head, which inclines to a dun; on the middle joint of both the wings there is a spot of the same colour as that upon the head, and the feathers on the rise of the tail differ only in being a few shades darker; the tail itself is of a yellowish brown, and about eight or nine inches long; the legs are near five inches long, and very slender, compared to other birds of its kind; both legs and feet are yellow, the talons black, and it has feathers growing below the knee. The skin of the breast of this bird, on account of the softness of its feathers, has often been recommended as a cover for the pit of the stomach, in order to help indigestion.

The *goss-hawk* is well known in most parts of England; its beak inclines to blue; its head, neck, back, and upper part of the wings, are of a darkish brown; the breast and belly of a yellowish white, with pretty thick transverse black lines, and a black line in the middle down the shaft; the thighs are covered with reddish feathers; the legs and feet are yellow, and the talons black; the tail is both long and broad, of a dun colour, with several mottled cross bars

at

at some distance from each other; the wings, when closed, fall a good deal short of the end of the tail, whence it is easily distinguished from other birds of this kind, as also by the largeness of its size.

The *sparrow-hawk* is rather larger than a common-sized pigeon; it has a short-hooked bill, rather bluish, but black towards the tip: though its eyes are of the common size, yet it is wonderfully sharp-sighted; the top of its head is of a dark brown; some few of them, however, have white feathers over the eyes on the back part of the head; the wings, and upper parts of the body, are brown, spotted with a yellowish dun; the lower parts of the body in some are whitish, and in others of a russet colour. The tail is pretty long, and the wings when closed do not reach beyond its middle; it has strong thighs, slender yellow legs, with long toes, and black talons. The eggs at the broad end are spotted with a sort of red circle of a pretty deep colour. For its size this is a very bold, courageous bird, and will often seize upon others larger than itself; and notwithstanding the general conclusion against the want of capacity and docility in those we have

last enumerated, this is said to be sometimes trained so as to be useful in the field.

Of the falcon, kite, and buzzard kind, some nomenclators have arranged upwards of seventy species, many of them, as M. de Buffon judiciously observes, without any difference; we do not, however, mean to assert, that there are not more than those which we have described, but then their variations are so trivial, that we may safely presume a general characteristic may be drawn of both the bold and inferior species from what we have said of the falcon and kite, except that in many of the warmer climates they have a brighter plumage, and some have brilliant crests upon their heads.

and in some parts

THE BUTCHER-BIRD.

THIS bird is also of a rapacious disposition, and is the smallest of the carnivorous class. There are said to be a great number of varieties of this species, but we shall confine ourselves to the account of two which are commonly known by the names of the *great* and the *small* *butcher-birds*. The *great one* in some parts of
England

England is called the *werkengall*, and in Germany it has an appellation, which in English signifies *nine-killer*, from an idle opinion that it kills nine birds every day; or at least that it destroys that number before it ceases. It is somewhat larger than a sterling, it has a strong black bill near an inch long, and hooked at the end; which, together with its carnivorous appetites, gives it a claim to rank among the carnivorous birds; though the slenderness of its legs, and the disformation of the toes, give it, in some measure, the appearance of being a shade between them and the granivorous. The upper part of the body is of a reddish ash-colour, the breast white, varied with a few dark coloured lines running across each other, and it has a black line from the beak parallel with the eyes.

The constitution of this bird seems to be perfectly congenial with its conformation; it lives equally as well upon flesh as upon insects, and thus partakes, in some measure, of a double nature; its appetite for flesh is the most prevalent, and it never takes up with the latter when it can obtain the former: the butcher-bird may therefore be said to lead a life of continual combat and opposition; as from its size it does not much terrify the smaller birds of the

forest

forest, so it very frequently meets with those that are willing to try their strength, and it never declines the engagement.

It is wonderful to see with what intrepidity this little creature goes to war with the pie, the crow, and the kestrel, all nearly four times bigger than itself. It not only fights upon the defensive, but often commences the attack, and always with advantage, particularly when the male and female unite to protect their young, and to drive away the more powerful birds of rapine; they do not then wait the approach of their invader; it is sufficient that they see him preparing for the assault at a distance; they then sally forth, attack him with fury, wound him on every side, so that he is glad to make off; and seldom returns to the charge. In these disputes, they generally come off with the victory, though it sometimes happens that they fall to the ground with the bird they have so fiercely fixed upon, and the combat ends with the destruction of both.

While the kite, the buzzard, and the crow, who rather fear than seek the engagement, are despised, these are treated with the greatest respect by the hawk and superior birds of prey; and nothing in nature better displays the defer-

ence that is paid to valour than to see this little bird, apparently so contemptible, fly in company with the falcon, and all the tyrants of the air, without fearing their power, or avoiding their resentment.

Small birds are its usual food, whom it seizes by the throat, and strangles in an instant. It is asserted also by the most undoubted authorities, that when it has killed the bird or insect, it fixes them upon some neighbouring thorn, and when thus spitted, pulls them to pieces with its bill. This is another of those grand powers of instinct so constantly occurring in animated nature, that leads us to an admiration of the wonderful prescience of the Almighty Creator; for here is a small animal without strength, in its own person, to separate the food it has provided, and yet possessing a sagacity to effectuate its purpose which the boasted pre-eminence of man could not exceed.

The *small* or *red butcher-bird* is not bigger than the wood-lark; it has an ill-shaped head, and about the mouth and nostrils there grows a sort of bristles, or black hairs; the back and upper part of the wings are pretty much of the colour of rusty iron; the head and rump are of an ash colour, and the lower parts of the body

body white, only upon the breast and throat there is a small mixture of red.

During summer, such of this species, as constantly reside here, remain among the mountainous parts of the country: the one just described migrates; but in winter they descend into the plains and nearer human habitations. The larger kind make their nests on the highest trees, while the lesser build in bushes in the fields, hedge-rows, and sometimes amongst the grass upon the ground. They both lay about six eggs, of a white colour, encircled at the large end with a ring of brownish red. The nest on the outside is composed of white moss, inwoven with long grass; within, it is well lined with wool, moss, and downy herbs, and is usually fixed among the forking branches of a tree. The female feeds her young with caterpillars and other insects while very young; but she soon accustoms them to flesh, which the male procures with surprising industry. Their nature is also very different from other birds of prey in their parental care; for, so far from driving out their young from the nest to shift for themselves, they keep them with care; and even when adult they do not forsake them, but the whole brood live

in one family together. Each family lives apart, and is generally composed of the male, female, and five or six young ones: they all maintain peace and subordination among each other, and hunt in concert. Upon the returning season of courtship this union is at an end; the family parts for ever, each to establish a little household of its own. It is easy to distinguish these birds at a distance, not only from their going in companies, but also from their manner of flying, which is always up and down, and seldom direct or side-ways.

As we have already observed, there are several varieties in this species of birds. Some nomenclators reckon upwards of forty, but the two we have described carry the leading marks of the race; they are also the best known in this kingdom; the latter, or red butcher-bird, migrates, as we have already observed, in autumn, and does not return till the spring. The wood-chat resembles the former except in the colour of the back, which is brown. There is still another, less than either of the former, found in the marshes near London, which is also a bird of prey, although not much bigger than a tit-mouse. Of foreign birds of this kind there are
several;

several ; but as we know little of their manner of living, we shall content ourselves with the description of one which is conspicuous for the singularity and beauty of its form : it is called the *Malabar shriek*. In size it is about that of the missel thrush ; its back and the upper part of its wings are of a fine glossy black, intermixed with lively blue shades ; it has a brilliant crest on its head ; the two outer feathers of its wings extend considerably beyond the rest, and the stems of those quills are destitute of feathers for more than half their length.

THE OWL.

THE various species of this animal are also to be reckoned among the carnivorous tribes, as they live upon the destruction of others : small birds, young pigeons, mice, and rats, are their common food. They are, however, distinguishable from all others, because they pursue their prey at a time when the generality of animated beings have retired to rest ; and for
this

this purpose their eyes, like those of several of the carnivorous quadrupeds, are formed for seeing better when the sun has declined below the horizon, and the veil of night has shaded the resplendency of day. But although the sight of owls may be completely dazzled by the glare of day, it is not to be concluded that they can see without some degree of light. On this subject an ingenious naturalist has said, " that some creatures have the pupil of their eyes extremely large, and which are not capable of that contraction requisite for a great light. The generality of animals are naturally furnished with pupils, (or eye-sights) that will encrease or diminish according to the degree of light by which they are encountered ; as, for instance, when a man has been in the dark for a considerable time, and comes suddenly into a light place ; or when a candle is brought into a dark room, the sudden light dazzles the eye, because the pupil of the eye was extended before, to cooperate with the act of visibility ; nor can the eye be at ease until it has again received a proper contraction for the quality of the light, and a due representation of objects. This may also be confirmed by this experiment : cover one of your eyes,

eyes, and the pupil of the other will dilate to supply the office of that which is covered ; uncover that eye again, and the other pupil will contract for the reason above ; from whence it appears that owls being furnished with large eyesights which admit not of contraction proper for great lights, can see best in lesser ones, yet they cannot see at all where there is no light." This matter has, however, been most clearly ascertained by M. de Buffon, as will be found in vol. iv, p. 137, of the present edition.

From these, as well as many other respectable authorities, we find that, as in the eyes of the cat-kind, which are formed for nocturnal depredations, there is a quality in the retina that takes in the rays of light so copiously as to permit their seeing in places almost dark ; so in these birds there is the same conformation of that organ, and though, like us, they cannot see in a total exclusion of light, yet they are sufficiently quick-sighted at those times when we remain in a total obscurity ; for besides the usual conformation, these birds have an irradiation on the back of the eye, and the very iris itself has a faculty of reflecting the rays of light, so as to assist vision in the gloomy places where they principally inhabit.

The

The dusk of the evening, however, or the grey of the morning, is best fitted for their sight, and not the darkest night, as it has been pretended by those who are fond of the marvellous. It is then that they issue from their retreats, to hunt or to surprise their prey, which is usually attended with great success: it is then that they find all other birds asleep, or preparing for repose, and they have only to seize the most unguarded. It has been observed that when the moon shines, their predatory excursions are most successful, and this is partly corroborated by the fact that they contract the hours of their chace: and if they come out at the approach of dusk in the evening, they return before it is totally dark, and then sally forth again by twilight the next morning to pursue their game, so that they may be enabled to obtain a sufficiency before the broad day-light begins to dazzle them with its splendor.

The faculty of seeing in the night, or of being dazzled by day, is not equal in every species of these nocturnal birds: some see by night better than others; and some are so little dazzled by day-light, that they perceive their enemies and avoid them. For instance, there can be little doubt that the common white

or barn owl sees with such acuteness in the dark, that though the barn in which he has taken refuge be close shut at night, and the light thus totally excluded, he can perceive the smallest mouse that creeps from its hole, and which he is certain of making his prey; while, on the other hand, the brown horned owl is often seen to prowl along the hedges by day, like the sparrow-hawk; and thus fall upon his unwary victims.

All the birds of this species may be divided into two sorts; those that have horns, and those that are without. These horns are nothing more than two or three feathers that stand up on each side of the head over the ears, and thus give this animal a kind of horned appearance. In the enumeration of this class, we must begin with those so distinguished, and at the head of which stands what is called the *great horned owl*. (fig. 8.*) His size is, in reality, about that of a common pullet, although he appears to be considerably larger, from the method he has of keeping his feathers quite loose, and sometimes almost of an end; he has very long hairs on the

* As this animal does not fear either heat or cold, the species is greatly diffused, and is to be found in both continents in the north and the south: not only indeed is the species found, but even varieties of the species; the *jacurutu* of Brasil, described by Marcgrave, being the same as the *great horned owl*.

upper eye-lid, and from a mode of drawing a skin or film over his eye in day-time, he always looks as though he were asleep: round his eye, which is large, is an iris of an orange colour; on the upper part of his head, instead of ears, he has some prominent feathers which he can raise or fall at pleasure. His face is very different from that of other birds, being almost flat; and this is the general characteristic of the owl kind: his beak, which is white, stands out nearly in the manner of the nose in the human species; over this is a flat forehead, and between them his eyes are sunk in a deep cavity; his back is of a reddish brown, a little variegated with white, and a yellowish white on the belly; the thighs are covered with white feathers, and his feet are hairy. It inhabits the openings of rocks, the cavities of old towers, and the hollows of oaks, and other decayed trees in the forests*. It feeds upon mice and small birds, and we are assured by a respectable author, that when it meets with any of those little animals by chance, it swallows them whole†, for his

* They rarely descend on the plains, and do not willingly perch upon trees; but chiefly resort to remote churches and old castles.

† In these cases he digests the flesh, and afterwards vomits up the hair, the bones, and the skin, in the form of little round balls.

throat is so large that it takes down the eggs of ducks and geese, which are sometimes his food.

Next to this is the *common horned owl*, differing only in size, being much smaller than the former. The horns of this owl are but about an inch long, and consist of six feathers, variegated with black and yellow. They seldom trouble themselves with making a nest, but generally take possession of an old magpie's or buzzard's. They lay four or five eggs. The young are white at first, but come to their colour in fifteen days. This species is common in France and England.

This is followed by the *little horned owl*, which is not much bigger than a common blackbird; it has a black bill; the feathers about the face are variegated with black and white, those near the eyes being somewhat red; its horns are of a yellowish white, composed of one feather, and that not an inch long; its body is of different colours, as white, yellow, black, red, and brown, beautifully intermingled; its legs are brown, and feathered down to the feet, and has black claws. This is a very solitary bird, and seems to have been but little known to the ancients: it is supposed to be a bird of passage, coming into these climates in October, and retiring again in spring. There

is another of this species, called the *scops*, still smaller than the last, but which it resembles in most respects. It is, however, only seven or eight inches long; its horns consist of one single feather, which is barely elevated above the others. In France it appears as a bird of passage, but it is dubious whether it ever visits England.

Of the tribe without horns, the *howlet*, estimating according to size, stands in the first place, yet it is not so large as the great-horned owl: this is also peculiar from having black eyes, and its plumage is in general of a dusky colour*.

The *screech-owl* is rather less than a common kite; it has blue eyes, and is of a kind of a bluish-grey colour, except the belly and thighs, which are of a lead colour, sometimes inclining to white.

The *white*, or *barn-owl*, is nearly of the size of the preceding; it has a white hooked bill, near an inch long, round which is a small circle of yellow feathers; its eyes too are yellow; the breast, belly, and under the wings, are white;

* This species was called by the Greeks, *nycticorax*, or the *Raven of the Night*. It is about fifteen inches long; it has a large head and eyes, the iris of which is black, or rather of a deep brown.

its back and covert wings shaded with yellow, and its legs are covered with a thick down as low as the feet.

The *brown owl* differs very little from the former, except in the colour of its beak and plumage, the former of which is brown, and the latter of the same colour, somewhat mottled.

The *little brown owl* does not exceed the size of a blackbird; it has yellowish eyes, an orange-coloured bill; the body is a dark brown, with a mixture of red, with several white and black spots; the lower part of the body is of a yellowish white, with some dusky spots; the feet are yellow, feathered down to the claws, of which it has two before and two behind. This bird has been met with in England but very rarely.

Besides these, there are above thirty other varieties of this species of animals, which are said to be existing in different parts of the globe; but, however they may differ in their size and plumage, the whole of these birds agree in their general characteristics of preying by night, and having their eyes formed for nocturnal vision. Their bodies are strong and muscular; their feet and claws made for tearing their prey, and their stomachs for digesting it. It must be remarked, however, that the digestion of all birds that live upon mice, lizards,

and

and similar food, is not very perfect; for though they swallow them whole, yet, as we have already observed, they some time after disgorge the skin and bones, rolled up in a pellet.

Being incapable of supporting the light of the day, at least sufficiently to perceive and avoid danger, they keep themselves concealed in some obscure retreat, suited to their gloomy dispositions, and there continue in perfect silence. The cavern of a rock, the darkest part of a hollow tree, the battlements of a ruined and unfrequented castle, or some secure hole in a farmer's out-house, are the places where they are usually found; and if they are seen out of these retreats in the day-time, they may be considered as having lost their way, and unable to find a place of security.

At the approach of evening they sally forth, and skim rapidly up and down along the hedges. The great horned owl is the foremost in leaving his retreat, and ventures into the woods and thickets very soon in the evening: the brown and other owls are later in their excursions, setting off in proportion as their eyes will bear the light. The barn-owl, indeed, who lives chiefly upon mice, is stationary: he takes his residence upon some shock of corn, or the point of some old house, and there watches in the dark, with unremitting perseverance, the motions of his prey.

prey. Each of these species have a particular cry, or rather scream, which they generally make use of on quitting their solitary holds; and a degree of horror is excited by their hideous cry, being heard as it is in the mid waste and silence of the night: poetry and romance too have lent their aid to the effect; for they delight to paint the owl as a necessary adjunct to the awful and solemn period of night. It is, however, considered in them as a testimony of joy at being enabled to quit their solitary abodes, and also as a call of love to their separated mates; and this is more particularly supposed to be the case, since they are never heard when hunting their prey: that important pursuit is always attended with silence, otherwise they would disturb or forewarn those little animals they wish to surprise. When their pursuit has been successful, they soon return to their solitude; but if they find but little game, they continue their quest still longer; and it sometimes happens that, obeying the dictates of appetite rather than of prudence, they continue their researches until broad day breaks in upon them, and leaves them dazzled, bewildered, and unable to trace their way back. In this distress they are obliged to take shelter in the first tree or hedge that offers, where they continue concealed until the returning darkness once more befriends their sight,
and

and assists them to find their home. But it often happens that, with all their precaution to conceal themselves, they are spied out by the other birds which haunt the spot of their retreat; and in which case they are sure to receive no mercy from them. The blackbird, thrush, jay, bunting, and even red-breast, advance to the attack, and employ all their little arts of insult and abuse. The smallest, feeblest, and most contemptible of this unfortunate bird's enemies, are then the foremost to injure and torment him. They increase their cries and turbulence round him, flap him with their wings, and, like many swaggerers of the human race, are ready to shew their courage to be great as they are sensible that their danger is but small. The unfortunate owl, not knowing where to attack, how to avoid his foes, or whither to fly, sits quietly, and patiently submits to the efforts of their malice. Astonished and dizzy, he only replies to their mockeries by awkward and ridiculous gestures, by turning his head, and rolling his eyes with an air of stupidity. If an owl appear by day, it is enough to set the whole grove into a kind of uproar. Either the aversion all the small birds have to this animal, or the consciousness of their own security, makes them pursue him without ceasing, while they encourage each other

other by their mutual cries to lend assistance in this laudable undertaking. But in this they are not always guided by caution, as they will sometimes continue their insults with that same imprudent zeal with which the owl himself had pursued his depredations. They will continue until the evening begins to return, which restoring him to his faculty of sight, he makes the foremost of his pursuers pay dearly for their former sport.

Of this inveteracy of the small birds to the owl, and of their folly, man has not failed to take the advantage. The bird-catchers sometimes get into a well-frequented grove, having acquired the art of counterfeiting the cry of the owl exactly, and previously lime the branches of a hedge, where they sit unseen and give the call. At this, all the birds within hearing flock to the place where they expect to find their well-known enemy; but instead of finding their stupid antagonist, they are stuck fast to the hedge themselves. This manœuvre is commonly put in practice an hour before night-fall, as being then most successful; for if it be put off till later, those birds, which but a few minutes sooner would come to provoke their enemy, will then fly from him with as much

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terror

terror as they just before would have shewed insolence.

The great horned owl is sometimes made use of to lure the kite, when falconers desire to catch him for the purposes of training up their young falcons. For this purpose they fasten the tail of a fox to the great owl to render his figure extraordinary, in which trim he sails slowly along, flying low, which is his usual manner. The kite, either curious to observe this odd kind of animal, or perhaps inquisitive to see whether it may not be proper for food, flies after, and continues to hover, descending by degrees, till the falconer, considering him sufficiently near, sets off a strong-winged hawk, who is certain of making him his prey.

The great horned owl usually breeds in the cavern of a rock, the hollow of a tree, or the turret of some ruined castle. Its nest is near three feet in diameter, and composed of sticks, bound together by the fibrous roots of trees, and lined with leaves on the inside. It lays from two to three eggs, which are larger than those of a hen, and of a colour somewhat resembling the bird itself. The young ones are very voracious, and the parents very assiduous
in

in satisfying their calls of hunger. The lesser owl of this kind, as we before observed, never makes a nest for itself, but always takes up with the old one of some other bird, which it has often been forced to abandon. It lays four or five eggs; and the young are all white at first, but change colour in about a fortnight. The other owls in general build near the places where they chiefly seek their prey; those which feed on birds in some neighbouring grove, and those which prey upon mice near some farmer's yard, who derives too much good from his services not to endeavour to give him security; for whatever mischief one species of owl may do in the woods, the barn-owl makes a sufficient recompence, by being equally active in destroying mice nearer home; indeed a single owl is considered as more serviceable than half a dozen cats, in ridding a barn of its domestic vermin. "In the year 1580," says an old writer, "at Hallontide, an army of mice so over-run the marshes near Southminster, that they eat up the grass to the very roots. But at length a great number of strange painted owls came and devoured all the mice. The like happened again in Essex about sixty years after."

We cannot better conclude our account of

this species, than in the words of M. de Buffon, who says, "Owls in general are very shy of man, extremely indocile, and very hard to be tamed, particularly the white owl, which we could never preserve alive for any time in a state of captivity: we have kept them for ten or twelve days in the aviary, where they were shut up; but they refused all kind of nourishment, and at last died with hunger. By day they remained without moving upon the floor of the aviary; in the evening they mounted on the highest perch, where they continued to make a noise like a man snoring with his mouth open; and this had every appearance of being intended as a cry or call to their old companions without; and, in fact, I have seen several others come to the call, and perch upon the roof of the aviary, where they made the same kind of scream, and were so inattentive to every other circumstance as to suffer themselves to be taken with a net*."

* The males and females of these birds resemble each other so much in their colour, that they are not easily distinguishable. There are numerous varieties among them, as in almost every other kind of animal.

OF THE POULTRY KIND.

HAVING thus fully described the most rapacious species of the feathered race, we shall quit the noxious tribe for the present, and bring forward those who are of such material advantage and benefit to man. In these we find exact similitude with the quadrupeds, namely, that in both orders there are some rendered domestic, while others, no less salutary as food, still preserve their freedom, and have not submitted to the controul and tyranny of man. The ox, the sheep, and goat, are not more obedient nor more familiar with their destroyers than are the cock, the turkey, and the peacock; nor are the stags, fallow-deer, and roe-buck, more independant than the bustard, pheasant, and partridge; but without dwelling upon these resemblances, which to point out is sufficient for the curious, we shall enter into a more general view of what are commonly

monly ranked under the denomination of the poultry kind, and which has been most ingeniously characterized by Dr. Goldsmith, who, on this subject, says :

“ Under birds of the poultry kind are to be ranked all those that have white flesh, and, comparatively to their head and limbs, have bulky bodies. They are furnished with short strong bills for picking up grain, which is their chief and often their only sustenance. Their wings are short and concave ; for which reason they are not able to fly far. They lay a great many eggs ; and, as they lead their young abroad the very day they are hatched, in quest of food, which they are shewn by the mother, and which they pick up for themselves, they generally make their nests on the ground. The toes of all these are united by a membrane as far as the first articulation, and then are divided as in those of the former class.

“ Under this class we may therefore rank the common cock, the peacock, the turkey, the pintada or Guinea hen, the pheasant, the bustard, the grouse, the partridge, and the quail. These all bear a strong similitude to each other, being equally granivorous, fleshy, and delicate to the palate. These are among birds what
beasts

beasts of pasture are among quadrupeds, peaceable tenants of the field, and shunning the thicker parts of the forest, that abounds with numerous animals who carry on unceasing hostilities against them.

“As Nature has formed the rapacious class for war, so she seems equally to have fitted these for peace, rest, and society. Their wings are but short, so that they are ill formed for wandering from one region to another; their bills are also short, and incapable of annoying their opposers; their legs are strong indeed, but their toes are made for scratching up their food, and not for holding or tearing it. These are sufficient indications of their harmless nature; while their bodies, which are fat and fleshy, render them unwieldy travellers, and incapable also of straying far from each other.

“Accordingly we find them chiefly in society: they live together, and though they may have their disputes, like all other animals upon some occasions, yet, when kept in the same district, or fed in the same yard, they learn the arts of subordination; and, in proportion as each knows his strength, he seldom
tries

tries a second time the combat where he has once been worsted.

“ In this manner, all of this kind seem to lead an indolent voluptuous life : as they are furnished internally with a very strong stomach, commonly called a *gizzard*, so their voraciousness scarce knows any bounds. If kept in close captivity, and separated from all their former companions, they still have the pleasure of eating left ; and they soon grow fat and unwieldy in their prison. To say this more simply, many of the wilder species of birds, when cooped or caged, pine away, grow gloomy, and some refuse all sustenance whatever ; none except those of the poultry kind grow fat, who seem to lose all remembrance of their former liberty, satisfied with indolence and plenty.

“ The poultry kind may be considered as sensual epicures, solely governed by their appetites. The indulgence of these seems to influence their other habits, and destroys among them that connubial fidelity for which most other kinds are remarkable. The eagle and the falcon, how fierce soever to other animals, are yet gentle and true to each other ; their connections, when once formed, continue till death ;

death; and the male and female in every exigence, and every duty, lend faithful assistance to each other. They assist each other in the production of their young, in providing for them when produced; and even then, though they drive them forth to fight their own battles, yet the old ones still retain their former affection to each other, and seldom part far asunder.

“ But it is very different with this luxurious class I am now describing. Their courtship is but short, and their congress fortuitous. The male takes no heed of his offspring; and satisfied with the pleasure of getting, leaves to the female all the care of providing for posterity. Wild and irregular in his appetites, he ranges from one to another; and claims every female which he is strong enough to keep from his fellows. Though timorous when opposed to birds of prey, yet he is incredibly bold among those of his own kind; and but to see a male of his own species is sufficient to produce a combat. As his desires extend to all, every creature becomes his enemy that pretends to be his rival.

“ The female, equally without fidelity or attachment, yields to the most powerful. She

stands by, a quiet meretricious spectator of their fury, ready to reward the conqueror with every compliance. She takes upon herself all the labour of hatching and bringing up her young, and chuses a place for hatching as remote as possible from the cock. Indeed, she gives herself very little trouble in making a nest, as her young ones are to forsake it the instant they part from the shell.

“ She is equally unassisted in providing for her young, which are not fed with meat put into their mouths, as in other classes of the feathered kind, but peck their food, and forsaking their nests, run here and there, following the parent wherever it is to be found. She leads them forward where they are likely to have the greatest quantity of grain, and takes care to shew, by pecking, the sort proper for them to seek for. Though at other times voracious, she is then abstemious to an extreme degree; and, intent only on providing for and shewing her young clutch their food, she scarce takes any nourishment herself. Her parental pride seems to overpower every other appetite; but that decreases in proportion as her young ones are more able to provide for themselves, and then all her voracious habits return.

“ Among

“ Among the other habits peculiar to this class of birds is that of dusting themselves. They lie flat in some dusty place, and with their wings and feet raise and scatter the dust over their whole body. What may be their reason for thus doing it is not easy to explain. Perhaps the heat of their bodies is such, that they require this powder to be interposed between their feathers to keep them from lying too close together, and thus increasing that heat with which they are incommoded.” In this last conjecture, however, naturalists do not agree, and it has, with greater seeming probability, been accounted for by the supposition, that, from a moisture arising from the body, filth is collected under the feathers, and that the only method they have to rid themselves of this inconvenience, is by a plentiful introduction of dry dust, which connecting with the other, they are thus enabled to clean themselves by shaking it all out together.

THE BUSTARD.

THIS bird (*fig. 10*) has no other claim to taking the lead in this race than that of being the largest land-bird that we are familiar with in Europe. They were formerly very numerous in England; but the increased cultivation of the country, and the extreme delicacy of their flesh, have greatly thinned the species; and a time may probably come when it will be a doubt whether so large a bird was ever bred among us: nay, it may be presumed that long before this the bustard would have been extirpated, but for its peculiarity in the places it has chosen to reside in. Had it sought shelter among our woods, in proportion as they were cut down, it must have been destroyed. Besides, if it had dwelt in the forests, the fowler might have approached it without being seen, and its size would have rendered it too conspicuous a mark to be easily missed; but instead of this it inhabits only the open and extensive plain, where its food lies
in

in abundance, and where, at a distance, it can clearly observe the motions of an approaching enemy.

The bustard is much larger than the turkey, the male generally weighing from twenty-five to twenty-seven pounds. The neck is a foot long, and the legs a foot and a half. The wings, although disproportioned to its size, not being more than four feet when extended from tip to tip, are nevertheless so formed as to elevate it in the air, and enable it to fly with some little difficulty. The head and neck of the male are ash-coloured; the back is barred transversely with black, bright, and rust-colour. The greater quill-feathers are black, the belly white; and the tail, which consists of twenty feathers, is marked with broad black bars; it has three thick toes before and none behind.

Plutarch mentions the bustard as being in his time a very common bird in Greece and Syria, and that they were found in great numbers in the environs of Alexandria and Lybia; they are also pretty general in the open parts of France and Spain, and particularly in the open plains of Poitou and Champagne. In England they are frequently seen in flocks of fifty or more together,
especially

especially on the extensive downs of Salisbury Plains, the heaths of Sussex and Cambridgeshire, the Dorsetshire uplands, and so on, as far as East Lothian in Scotland. In those extensive plains, where there are no woods to screen the sportsman, nor hedges to aid him in his destructive design, the bustards enjoy an indolent security. Their food is composed of the berries that grow among the heath, and the large earthworms that appear in great quantities on the downs before sun-rising in summer. It is in vain that the fowler makes use of his art to approach them, for they have constantly sentinels placed at proper eminences, always on the watch, to warn the flock of the smallest appearance of danger. The eager sportsman has, therefore, the frequent mortification of beholding plenty of game without the possibility of getting near it, for being in view is sufficient for them to take wing. Notwithstanding it is so difficult to approach them within gun-shot, they are often run down by greyhounds. As they are voracious and greedy, they frequently sacrifice their safety to their appetite, by feeding themselves so very fat that they are unable to fly without great preparation.

When

When the greyhound, therefore, comes within a certain distance, for it is not so shy of the dog as of man, the bustard runs off, flapping its wings, and endeavouring to gather air enough under them to rise, till the rapid approach of the enemy renders it too late for him even to think of obtaining safety by flight; for just at the rise there is always time lost, and of this the bird is sensible; it continues, therefore, on the foot, attempting to gain a sufficient distance before it ventures on flight, and in which attempt it is frequently outrun, and becomes a prey to its pursuer. *Ælian* says that nothing is more easy than the capture of this bird, and he affirms, as a fact, that, in ancient Pontus, the foxes made use of the following stratagem in order to take them:—The fox elevates his bushy tail, which he causes to imitate as much as possible the motions of the bird's neck: the bustards, he adds, mistake it for a bird of their species, approach it without apprehension, and become the prey of this crafty animal.

Being so attached to the security of an open country, there are few places where they can at once find proper food and safety; they therefore generally continue near their old haunts, seldom wandering

wandering above twenty or thirty miles from home. As their food is replete with moisture, they are enabled to live a long time without drinking upon arid plains, where there are scarcely any springs of water. Besides this, Nature has given the males an admirable magazine for their security against thirst. This is a pouch, the entrance of which lies immediately under the tongue, and, if we may credit some authors, is capable of holding near seven quarts of water. This he is supposed to fill upon particular occasions, especially to supply the hen when sitting, and the young before they can fly, and also to procure it for themselves.

They possess no lengthened attachment, but select their mates at the season of incubation, which is about the latter end of summer. They then separate in pairs, if there be a sufficiency of females for the males; but when it happens otherwise, the males fight until one of them falls. They make no nests, any farther than scraping a hole in the earth, and sometimes lining it with a little long grass or straw. There they lay two eggs only, almost of the size of a goose egg, of a pale olive brown, marked with spots of a darker colour. The
time

time of incubation is about five weeks, and the young ones run about as soon as they are out of the shell; which is the case with all that come under the denomination of the poultry kind.

It is said that when the hen is apprehensive of the hunters, and is disturbed from her nest, she takes her eggs under her wings, and transports them to a place of safety. But this appears to be one of those circumstances that has originated among the lovers of the marvellous.

The flesh of these birds has ever been considered as a great delicacy, and therefore invariably the object of pursuit; besides which, their quills are held in high estimation among anglers, who use them as floats; for, as they are spotted with black, the notion is, that these black spots appear like flies to the fish, and therefore rather allure than drive them away.

By observation and attention it has been discovered that the bustards assemble in flocks in the month of October, and keep together till April; and that in winter, as their food becomes more scarce, they support themselves indiscriminately, by feeding on moles, mice, and even little birds, when they can seize them. For want of other food, they will live upon

turnip-leaves, and other similar succulent vegetables. In some parts of Switzerland they are found frozen in the fields in severe weather, but when taken to a warm place they recover again. They are supposed to live about fifteen years, but are incapable of being propagated in a domestic state, probably from not having a supply of that peculiar food which may be necessary to their constitution.

The *little bustard* differs from the preceding only in its small size, not being larger than a pheasant, or about seventeen inches in length. This species is found in many parts of Europe. It is, however, by no means common in France, and has only been met with three or four times in England.

There are six or seven species of this kind, two or three of which, particularly the *houbara* and the *rhaad* (both African birds), are crested, and different from the European ones, by some varieties in their plumage; but there are not any of the species found in America.

OF THE COCK.

FAMILIAR as this bird is to all, yet its variety is so great, that the most able naturalists have invariably expressed a difficulty in pointing out its distinctive characters, and for this obvious reason, that there are scarcely two birds of this species that exactly resemble each other in plumage and form. If we take for the mark of the genus its four toes, what then becomes of the peculiar species which has five on each foot*? If the erect and peculiar position of the tail be assumed, there is a species wholly destitute of this character. If we would say that the cock is only feathered to the lower joint of the leg, there are some breeds which are feathered even to the toes, and that of Japan has feathers even to the very nails. In fine, if we would class him among granivorous birds, we must allow some latitude even in this, since he

* This is certainly a hen, and even very ancient, for Columella speaks of it as a distinguished race: *Generosissima creduntur quæ quintos habent digitos*. Lib. viii, c. ii.

devours greedily not only earth-worms, but in many cases both fish and flesh.

Of the period when this bird was first introduced into Europe, all our researches will not enable us even to presume a conjecture ; but it seems admitted on all hands that the cock is one of the oldest companions of mankind, and that he was among the first who were drawn from the wilds of the forest, to become a partaker of the advantages of society. Although it does not appear at what period this took place, yet it is pretty certain that the first accounts we have of the cock is from the annals of Persia, and to which kingdom the western parts of the universe are certainly indebted for him.

Aristophanes calls the cock the *Persian bird*, and tells us he enjoyed that kingdom before some of its earliest monarchs. This animal was in fact known so early even in the most savage parts of Europe, that we are told the cock was one of the forbidden foods among the ancient Britons. Indeed, the domestic fowl seems to have banished the wild one. Persia itself, that first introduced it to our acquaintance, seems no longer to know it in its natural form ; it is nevertheless still found wild in the islands of Tinian, in many others of the Indian ocean, and

and in the woods on the coasts of Malabar. In his wild state his plumage is black and yellow, and his comb and wattles yellow and purple. Of these, in the wild state, especially in the Indian woods, a very particuar circumstance is related as a fact, namely, that when boiled, their bones become as black as ebony. Whether this tincture proceed from their food, as the bones are tintured red by feeding upon madder, we do not pretend to determine, any more than to vouch for the fact; it is sufficient for us to have given the assertion of several authors of general credit.

Among the ancients, at least the Europeans, after this bird's first introduction among them, those whose feathers were of a reddish cast were considered as invaluable; but those whose plumage was white, they considered as unfit for domestic purposes; even Aristotle has treated of them as being the least fruitful of the two; the first he calls generous and noble, being remarkable for fecundity; the other ignoble and useless, from their sterility. These distinctions differ widely from our modern experience, the generous *game-cock* being by no means so fruitful as the ungenerous *dunghill-cock*, which has been treated with such contempt.

Without

Without dwelling on this distinction, it is certain that no animal in the world has greater courage than the cock, when opposed to one of his own species ; and in every part of the world, cock-fighting has long been a favourite and principal diversion. In China, India, the Philippine islands, and all over the East, cock-fighting is the sport and amusement even of kings and princes. England has long had the credit of producing a bolder and more valiant breed than is to be found in any other country ; but in these later times it is positively asserted that they have cocks in China as bold, if not bolder, than ours ; and, what would still be considered as valuable among the admirers of this sport, they have more strength with less weigh*.

Naturalists have attributed the extraordinary courage in the cock to his being the most salacious of all other birds whatsoever. A single cock suffices for ten or a dozen hens ; and it is asserted that he is the only animal whose spirits

* Cocks are not the only birds which man has thus abused: the Athenians, who had a certain day in the year consecrated to these cock-fights, employed quails also for the same purpose ; and the Chinese rear, even at the present day, certain small birds resembling quails or linnets ; and every where their mode of fighting varies according to their instructors.

are

are not abated by indulgence. But he soon grows old; the radical moisture is exhausted; and in three or four years he becomes utterly unfit for the purposes of impregnation. "Hens also, (says Willoughby) as they for the greatest part of the year daily lay eggs, cannot suffice for so many births, but for the most part after three years become effete and barren: for when they have exhausted all their seed-eggs, of which they had but a certain quantity from the beginning, they must necessarily cease to lay, there being no new ones generated within."

The formation of the embryo is curious. During the first day's incubation, and even when the egg has been under the hen a few hours, the head of the chicken may be seen gradually uniting itself to the spine of the back. On the second day the first apophyses of the vertebræ may be discerned like so many small globules disposed on each side of the spine. The first commencement of the wings and the umbilical vessels may also be distinguished by their dark colour. The neck and the breast also shew themselves, and the head continues to increase in size. The third day the whole is more distinct and enlarged, and the heart, which is suspended at the opening of the breast, is observed

served to beat ; veins and arteries may also be perceived about the brain, and the spinal marrow begins to extend itself through the spine. The eyes are considerably formed on the fourth day. The pupil, the crystalline and vitreous humours, may be distinctly seen. The wings increase, the thighs appear, and the whole body begins, in some degree, to be covered with flesh. The fifth day the body is covered with a glutinous or unctuous flesh ; the heart is retained within a very fine membrane, which also extends itself all over the breast. The sixth day the spinal marrow, in two divisions, continues to advance along the trunk ; the liver, which at first was whitish, becomes of a darker hue ; both ventricles of the heart beat, and the body of the chicken is covered with skin, in which may be already discerned the points of the feathers. The beak may be discovered on the seventh day, and the brain, the wings, the thighs, and even the feet, have acquired a perfect form. The lungs appear at the end of the ninth day ; their colour is whitish. On the tenth the muscles of the wings begin to form, and the feathers continue to shoot out. It is not till the eleventh day that the arteries, which before were separate, unite to the heart. The rest of
the

the process consists only in an increase and more perfect developement of the several parts, till they acquire sufficient vigour to break the shell.

A common hen, if at liberty, and well fed, will produce more than one hundred and fifty eggs in a year; and it is no uncommon thing for them to have two broods of chickens during the same period*. For the hen to have eggs it is by no means necessary that she should be in company with a cock; she will continue to lay, although the eggs of this kind can never be brought to produce a living animal. "But," says Buffon, "when the hen has cohabited with the cock for a few days, and afterwards separated from him, the eggs she produces for a month, after separation, are as fertile as those she produced during the time of cohabitation with the male, and unfold at the same time." The hen makes her nest without any care, if left to herself; a hole scratched in the ground, among a few bushes, is the only preparation she makes for the office of incubation. Nature, almost exhausted by its own fecundity, seems to inform her of the proper time for

* They lay indifferently through the whole year, except during the moulting, which lasts generally six weeks or two months, and takes place towards the end of autumn or beginning of winter.

hatching, which she herself testifies by a clucking noise, and by discontinuing to lay. But this inclination for setting is frequently postponed by those who prefer eggs to chickens, by dipping her head a few times in cold water. If left entirely to herself, she would seldom lay above twenty eggs in the same nest, without attempting to hatch them, but this inclination is stopped by the removal of her eggs, and she continues to lay, vainly hoping to increase the number.

During the time of incubation nothing can exceed the patience and perseverance of the hen ; she will sometimes remain for whole days together without moving from her nest, scarcely ever quitting it more than once in twenty-four hours ; then it is from the pressure of hunger, and she devours her food with all imaginable haste, barely allowing herself time to take a sufficiency for the support of nature. While the hen sits she carefully turns her eggs, and even removes them to different situations ; till at length, in about three weeks, the young brood begin to give signs of a desire to burst their confinement, which they are supposed to effectuate by repeated efforts with their bills against the shells, assisted in some little degree by the hen, who, when they are all produced, leads

leads them forth to provide for themselves. Her affection and her pride seem then to alter her very nature, and correct her imperfections. No longer voracious or cowardly, she abstains from all food that her young can swallow, and flies boldly at every creature that she thinks is likely to do them mischief: she courageously attacks the horse, the hog, or any other animal which she suspects is inclined to injure her progeny. When marching at the head of her little troop she acts the commander, and has a variety of notes to call her train to their food, or to warn them of approaching danger.

In general, ten or twelve chickens are as many as a good hen can produce or rear at one time; but as this bears no proportion to the number of her eggs, schemes have been tried to hatch all the eggs of a hen, and thus turn her produce to the greatest advantage; which being effectuated, a hen may be said to produce upwards of a hundred and fifty of her own species in a year. This contrivance is the artificial method of hatching chickens in stoves, as is practised at Grand Cairo; or in a chemical laboratory properly graduated, as has been effected by Mr. Reaumur. At Grand Cairo they thus produce six or seven thousand chickens at a time; where, as they are brought

forth in their spring, which is warmer than our summer, the young ones thrive without clutching. But it is otherwise in our colder and unequal climate; the little animal may, without much difficulty, be hatched from the shell; but they almost all perish when excluded. To remedy this, Reaumur made use of a woollen hen, as he calls it; which was nothing more than putting the young ones in a warm basket, and clapping over them a thick woollen canopy; but a much better substitute is sometimes made use of, namely that of capons, who are frequently thus employed; and the manner of teaching them is this: first the capon is made very tame, so as to feed from the hand; then, about evening, they pluck the feathers off his breast, and rub the bare skin with nettles; they then put the chickens to him, which presently run under his breast and belly, and probably rubbing his breast gently with their heads, allay the stinging pain which the nettles had just produced. This is repeated for two or three nights, till the animal takes an affection to the chickens that have thus given him relief, and continues to afford them the protection they seek for. He, from that time, brings up a brood of chickens like a hen, clutching them, feeding them, clucking, and performing all the functions

tions of the tenderest parent. A capon once accustomed to this service will not give it over, but when one brood is grown up, he may have another just hatched put under him, which he will treat with the same tenderness as he did the former.

The cock, from his salaciousness, is allowed to be a short-lived animal, but *how* long they live, if left to themselves, is not yet well ascertained. As they are kept only for profit, and in a few years become unfit for generation, there are few that, from mere motives of curiosity, will make the tedious experiment of maintaining a proper number till they die. Aldrovandus hints their life to be about ten years, but the probability is in favour of its being much longer. They are subject to some disorders, and as for poisons, besides *nuxvomica*, which is fatal to most animals except man, they are injured, as Linnæus asserts, by elder-berries, of which they are not a little fond*.

There are various accounts of the origin of the barbarous custom that has so long ob-

* Hens can live any where with the protection of man, and hence they are diffused over the whole habitable world: they are reared in Iceland, where they lay eggs the same as elsewhere, and hot countries are full of them.

tained,

tained, of throwing at these creatures on a Shrove-Tuesday; but that of one Cranenstein, an old German author, by no means seems an improbable one; he says, when the Danes were masters of England, and lorded it over the natives of the island, the inhabitants of a certain great city, grown weary of their slavery, had formed a secret conspiracy to murder their masters in one bloody night, and twelve men had undertaken to enter the town-house by stratagem, and seizing the arms, to surprize the guard which kept it; at which time their fellows, upon a signal given, were to come out of their houses and murder all opposers; but while they were putting it in execution, the unusual crowing and fluttering of the cocks, about the place they attempted to enter at, discovered their design; upon which the Danes became so enraged that they doubled their cruelty, and used them with more severity than ever; but being soon after freed from the Danish yoke, to revenge themselves on the cocks for the misfortunes they involved them in, they instituted this custom of knocking them on the head on Shrove-Tuesday, the day on which it happened. This sport, though at first only practised in one city, in process of time became a national divertisement, and has continued

continued ever since the Danes first lost this island.

This race of animals is divided into a great number of varieties* ; they are common in most countries, and yet very few are perfectly alike ; those of every different climate having their peculiarities, besides the variations which take place among them in each. In Europe there may be said to be three distinct species, though doubtless of the same stock ; for what is commonly known as the *farm-yard*, or *dunghill*, is widely different in size, colour, and manners, from the *game-cock*, and both are no less distant from the *bantam*. The latter species, being more uniform in its colours and characteristics, may deserve description. In general the bantam is little more than half the size of the game-cock, whom he somewhat resembles in colour and spirit, for he will attack cats, dogs, or any other animal, totally indifferent as to their size ; he has a reddish bill, red eyes, and a curious rose comb on the top of his head ; his ears are covered with a tuft of white feathers ; his neck and back are cloathed with long streaming feathers, intermixed with orange, black, and yellow ; his

* Buffon reckons nineteen different species of cocks.

breast and lower part of the belly black; he has long stiff feathers growing from the thighs, which reach considerably below the knees; the legs are feathered as low as the toes; his tail is made up of stiff black feathers, with two large ones in the form of a sickle hanging over the rest. This breed was at first found domesticated at Bantam in India, whence they received their name, and were transported into Europe. The hens of this species differ from the cocks, principally by varying in their colours, but which at all times are more brown and yellow, and less black, than his; they have also but a very small red comb on the tops of their heads; their legs, like those of the cock, are feathered down to the toes, and which is one of the chief marks by which the true breed is distinguished.

The *Hamburgh cock* is a large stately fowl, appears very bold, and loses none of the advantages in his march that Nature has given him; his bill is thick at the base, but ends in a sharp point; the eyes are of a very beautiful yellow, encircled round with dark-coloured feathers, under which there is a tuft of black ones, which covers the ears; it has a sort of rose comb, which does not reach
above

above half way on the head, the hinder part being covered with dark-coloured feathers inclining to a black; the throat and gills are much the same, with long hackle-feathers of an orange and red mixture, black at the extremities, waving down the neck, and over some part of the back; the breast and belly are of a dark colour, spotted with round black spots; the thighs, and lower part of the belly, are of a shining velvet black, from which some have given him the name of *velvet breeches*.

The hindmost part of his neck, and the top of his back, are of a darkish red; the sides of the wings more pale: the tail is made up of long feathers, of black, red, and orange colour, which, in the sun, yield a very beautiful lustre. The legs and feet are lead-coloured, only the bottom part of them is yellow.

This is a peculiar breed, which is brought over from Hamburgh, and is much esteemed by the curious.

The *wonderful Indian cock* is a very beautiful feathered fowl; the plumage of his whole body is said to consist of the following five colours, viz. black, white, green, red, and blue; the back part of the head is adorned with a sort of a fleshy substance, of a pyramidal figure, which appears of a blood-red colour to the eye,

and looks scaly; the bill is thick and strong, the breast mottled very beautifully with red and green, the wings not very long. The tail is made up of twelve large flaming feathers, a little resembling a peacock's; the comb upon the head is double, with a single wattle hanging under the lower mandible an inch and a half long; it is said to be a wild fowl, but easily tamed; the beak and legs are yellow.

The *Indian cock*, described by Sir Hans Sloane, has a large prominent bill, the end of the upper mandible of which is black, the rest yellow, as is the circle in the eyes; the head is adorned with a curious tuft of shining black feathers. The neck-feathers are of a very beautiful shining green colour, the body-feathers are black and green, mixed, and the thighs are blue.

The *Muscovian black game-hen* is a large bird, weighing nine or ten pounds, has a yellow bill, of near an inch and a half in length, if measured from the angles of the mouth to the tip of it, with a sharp tongue, that lies in the cavity of the palate, and which is exactly formed to contain it. The eyes are of a fine hazel colour, above which there appears a sort of scarlet-coloured, naked skin, situated in the place of its eye-brows.

They are generally of a yellowish brown, in
some

some parts inclining to a white, with large white spots on the scapular parts of the wings, and are marked, more or less, with black feathers on many parts of the body, with whitish-coloured tips; but the colour of them is said to change pretty much as they advance in years, or as they inhabit different climates: the legs are large and strong, and feathered down almost as low as the toes.

They are found frequently upon the Alps, in Germany, and in the mountainous parts of Muscovy, &c.

THE TURKEY*.

OF the *Meleagris*, or *Turkey*, there is but one known species: it is a large but unweildy bird; the anterior part of the head is strangely covered and ornamented with a pendulous, soft, fleshy substance, as are also the sides of the head and throat: the eyes are small but bright

* As this bird has only been known since the discovery of America, it has no name in Greek or Latin. The Spaniards called it *Pavon de las Indias*, that is, the *Peacock of the West-Indies*; and this name was not unappropriate at that period, for he spreads his tail like a peacock; and besides, there was no peacock in America.

and piercing ; the bill convex, short, and strong ; there is a long tuft of coarse black hairs on the breast ; the wings moderately long, but not at all formed for supporting so large a bulk in long flights ; the legs of moderate length and very robust.

The plumage is dark, glossed with variable copper and green ; the coverts of the wings and the quill-feathers barred with black and white. The tail consists of two orders ; the upper or shorter very elegant ; the ground colour a bright bay, the middle feathers marked with numerous bars of shining black and green. The longer or lower order is of a rusty white colour, mottled with black, and crossed with numerous narrow-waved lines of the same colour, and near the end with a broad band.

Turkies, we are confidently assured by Mr. Pennant, are natives only of America, or the New World, and were of course unknown to the ancients. And in mentioning those parts of the world where turkies are unknown in a state of nature, Europe has no share in the question, it being generally agreed that they are exotic in regard to that continent.

Neither are they found in any part of Asia Minor, or Asiatic Turkey, notwithstanding that ignorance of their true origin caused them

to be named from that empire. In Syria they are only met with in their domesticated state; in Armenia and India they are little known, and they have been introduced into China from other countries. The hot climate of Africa barely suffers these birds to exist in that vast continent, except under the care of mankind. Few are found in Guinea, but in the hands of the Europeans; for from the great heats the negroes decline breeding them. Nor are they to be met with either in Nubia or Egypt*.

As there is sufficient cause to believe that the turkey cannot be a native of the Old World, some proof will be necessary of its being only a native of the New, and of the period in which it made its appearance in Europe.

In 1525 Oviedo drew up the summary of his "History of the Indies," for the use of his master, Charles V, and therein gives the first precise description of these birds. This learned man had visited the West-Indies and islands in person, and paid particular regard to their natural history. It appears that in his days the turkey was an inhabitant as well of the

* Gemelli Careri affirms that they are not only unknown in the Philippines, but that those which the Spaniards brought there from New Spain did not prosper.

greater islands as of the main land: he speaks of them as peacocks, for being a bird new to him he adopts that name from their similitude; "but," says he, "the neck is bare of feathers, though covered with a skin, which they change, after their phantasie, into divers colours; they have a horn, as it were, upon their fronts, and hairs on their breasts." Under the name of peacock he also describes the Curassao birds, the male of which is black, the female ferruginous.

Francisco Fernandez, who was sent to South America by Philip II, to whom he was physician, some time between the years 1555 and 1598, observed them in Mexico, and gives them the title of *Gallus Indicus*, and *Gallus Pavo*. The Indians, as well as the Spaniards, domesticated these useful birds. He speaks of the size by comparison, saying that the wild were twice the magnitude of the tame, and that they were shot with arrows or guns.

In North America they were observed by the very first discoverers. When Rene de Laudonniere, under the patronage of Admiral Coligni, attempted to form a settlement near the place where Charlestown now stands, he met with them on his first landing in 1564.

From

From his time the witnesses of their being natives of the Continent are innumerable. They have been seen in flocks of hundreds in all parts, from Louisiana even to Canada; but at this time they are extremely rare in a wild state, except in the more distant parts, where they are still found in abundance.

It was most likely from Mexico, or the province of Yucatan, now reckoned part of that kingdom, and where Dampier saw them frequently as well wild as tame, that they were first introduced into Europe; for it is certain that they had been imported into England so early as the year 1524, the 15th of Henry VIII.

We probably received them from Spain, with which country we had great intercourse till about that time. They were bred most successfully in England from that period; insomuch that they grew common in every farm-yard, and became even a dish in our rural feasts by the year 1685; as we may certainly depend on the word of Tusser, in his account of the

“Christmas husbandlie fare,”---

“Beefe, mutton, and porke, shred pies of the best,

“Pig, veale, goose, and capon, and *turkie* well-drest;

“Cheefe, apples, and nuts, jollie carols to heare,

“As then in the countrie is counted good cheare.”

It

It was not, however, until a later period, that they were familiarized in France; for we are told, that the first which were eaten there appeared at the nuptial feast of Charles IX, in 1570.

Wild turkies preserve a sameness of colour; but the tame, as is usual with domestic animals, vary. The black approaches nearest to the original stock. A very beautiful kind was introduced into this country some years ago from Holland, of a snowy whiteness, finely contrasting with its red head, and had probably been bred from an accidental white pair*.

The manners of these birds are as singular as their figure; their attitudes in the season of courtship are very striking; the males fling their heads and necks backward, bristle up their feathers, drop their wings to the ground, strut and pace most ridiculously, wheel round the females with their wings rustling along the earth, at the same time emitting a strange

* There are white turkies, others variegated with black and white, others white and of a reddish brown, and others of a uniform grey, which are the most rare of all; but the greater part have the plumage approaching to black, with a little white at the extremity of the feathers.

sound through their nostrils, not unlike the *g r u u r* of a great spinning wheel. If interrupted, they fly into a great rage, change their notes into a loud guttural gobble, and then return to dalliance. The tones of the females are plaintive and melancholy*.

They are polygamous, one cock serving many hens, which lay in spring, and produce a great many eggs, to the number of eighteen or twenty, and persist in laying for a great while, but retire to some obscure place to sit; the cock, through rage at the loss of his mate, being very apt to break the eggs. The females are of a mild, gentle disposition, very affectionate to their young, and make great moan when they lose them. They sit on their eggs with such perseverance, that if they be not taken away when addle, the hens will almost perish with hunger before they will quit the nest; and when the brood is produced, they give many instances of that maternal anxiety, observable in the feathered race.

* They have different tones and different inflexions of the voice according to the passions which they want to express: their walk is slow and their flight heavy; they eat, drink, swallow little stones, and digest them nearly the same as the cock does.

When the hen turkey appears at the head of her young, she is sometimes heard to send forth a very mournful cry, the cause and intention of which are unknown; but the brood immediately squat under bushes, or whatever presents itself for their purpose, and entirely disappear; or if they have not a sufficient covering, they stretch themselves on the ground, and lie as if they were dead, in which state they continue perhaps a quarter of an hour or longer. In the mean time the mother directs her view upwards with fear and confusion, and repeats the cry that laid her young prostrate. Those who observe the disorder of the bird, and her anxious attention, endeavour to trace the cause; which is always a bird of prey, floating in the clouds, and whose distance withdraws him from our view, but who cannot escape the vigilance or penetration of the active mother: this occasions her fears, and alarms the whole tribe. “I have seen (says the Abbé de la Pluche) one of these creatures continue in this agitation, and her young in a manner rivetted to the ground for an hour successively, while the bird whirled about, ascended, or darted down over their heads. But if he at length disappear, the mother changes her note, and utters another cry
that

that revives all her brood; they run to her, flutter their wings, tender her their caresses, and undoubtedly relate all the dangers to which they have been exposed."

In the poultry-yard, these birds require much attention and particular food; but as they grow up, they become more hardy, and follow the mother to considerable distances, in pursuit of insect food, particularly ants, which they prefer to any other. When grown up, turkies are very hardy birds, and feed themselves with very little expense to the farmer. Young ones are with us accounted a dainty, but the flesh of the wild turkey is said to be superior in goodness to the tame, although redder. The size of turkies, especially of the wild ones, has been variously represented, some writers stating the latter to weigh sixty pounds; though speaking from their own knowledge, they never can prove their weight to be above forty: and those gentlemen cannot be *nice* in their assertions, who make the Norfolk turkies to weigh thirty pounds.

Eggs of the wild sort have been taken from the nest, and hatched under tame ones; the young ones nevertheless prove wild, perch separately, yet mix and breed together in the sca-

son; and the Indians frequently use the breed thus produced as a sort of decoy bird.

Turkies are very swift runners in the tame as well as in the wild state, though they are but indifferent flyers. They love to perch on trees, and gain the heights they wish by rising from bough to bough. In a wild state, they get to the very summit of the loftiest trees, even so high as to be beyond the reach of the musquet.

In a state of nature they go in flocks even of five hundred; they feed in general near fields of nettles, in the seeds of which they greatly delight, or where there is plenty of any kind of grain; they also feed much on the small red acorn, and grow so fat in March, that they cannot fly more than three or four hundred yards, and are soon run down by horsemen. In the unfrequented parts bordering on the Mississippi, they are so tame as to be shot with a pistol. They frequent the great swamps of their native country, and leave them at sun-rising to repair to the dry woods in search of acorns and berries; but before sun-set, they return to the swamps to roost. When disturbed they do not take flight, but run out of sight. It is usual to chace them with dogs, when they will fly and perch on the next tree, where, it is said,

said, they sit quite spent and fatigued, till their pursuers come and knock them down with a long pole one after another. They are so stupid, or so insensible of danger, as not to fly on being shot at; and even the survivors remain unmoved at the death of their companions.

Wild turkies are now become very rare in the inhabited and cultivated parts of America, and are only found in numbers in the distant and most unfrequented spots; for the Indians never think of domesticating animals that the woods furnish them with in abundance: yet they make elegant cloathing of their feathers, which are more beautiful than those of our domestic ones, being of a vivid grey, bordered at the edges with a bright gold colour; they twist the inner webs into a strong double thread of hemp, on the inner bark of the mulberry-tree, and work it like matting; it appears very rich and glossy, and as fine as silk shag, and they frequently weave it into cloaks. Of the tails they make fans; and the French of Louisiana used to make umbrellas, by joining together three or four tails.

Turkies are certainly very stupid birds, and they are not less quarrelsome than cowardly. Without any weapon of defence, they often
attack

attack each other, and in flocks they will even attack the common cock, who will for a long time keep a number of them at bay, and rather suffers by the superiority of their weight and bulk, than from the annoyance of their arms. Singly, they will fly from the most contemptible animal that dares to face them.

The passions of the male are very strongly expressed by the change of colours in the fleshy substance of the head and neck, which alters to red, white, blue, and yellowish, as they happen to be affected. Their antipathy to *red* is well known, and they seem to have a peculiar aversion towards children. There is another way, says Goldsmith, of increasing the animosity of these birds against each other, which is often practised by boys when they have a mind for a battle: this is no more than to smear over the head of one of the turkies with dirt, and the rest run to attack it with all the speed of impotent animosity; nay, two of them thus disguised, will fight each other till they are almost suffocated with fatigue and anger.

THE PEACOCK.

IT is pretty generally admitted that the Peacock was originally a native of the East Indies, and that at this time they are found in a wild state in the islands of Java and Ceylon. It has long however been domesticated, for we find, so early as the days of Solomon, among the articles imported from the East, were apes and peacocks. Ælian relates, that they were brought into Greece from some barbarous country, and were held in such high esteem among them, that a male and female were valued at above thirty pounds of our money. We are told also that when Alexander was in India, he found them flying wild, in vast numbers, on the banks of the river Hyarotis, and was so struck with their beauty, that he laid a severe fine and punishment on all who should kill or disturb them. The Greeks were so much struck with its beauty,

beauty, when first brought among them, that it was shewn as a great curiosity, and a large price was paid for seeing it; nay, it is positively asserted, that it excited so much curiosity, that many people came from Macedon to Athens, to behold what was then considered as the most beautiful phenomenon in the feathered race.

There is every reason to suppose that the beauty of this bird first tempted man to transport him from his native climes into the Western part of the world, and it is also probable that this same beauty, together with his scarcity, tempted the extravagant and voluptuous to have him served up at their feasts. Aufidius Hurco stands charged by Pliny with being the first who fattened the peacock for the tables of the luxurious. Hortensius the orator was the first who served them up at an entertainment at Rome: from that time they were considered as one of the greatest ornaments of every feast, and have been mentioned by several authorities as the greatest dainty the epicure could be supplied with. In later times, however, the flesh of the peacock has lost its reputation: whether this arise from a different mode of feeding or dressing them, or is merely
another

another proof of the difference of taste between the ancient and moderns, we shall not presume to determine, but certain it is, that in this country the flesh of the peacock is both coarse and insipid. Indeed it is not in England alone that it has been so considered, for we are informed, that, even in the times of Francis the First, it was a custom to serve up peacocks to the tables of the great, not to be eaten, but only to be seen. For this purpose it was the practice carefully to strip off the skin, and then preparing the body with the warmest spices, cover it up again with all its plumage in full display, taking care that it was no way injured by the preparation. The bird thus prepared, was often preserved for many years, without corrupting; and it is asserted of the peacock's flesh, that it keeps longer unputrified than that of any other animal. To give a higher zest to these entertainments, on weddings particularly, they filled the bird's beak and throat with cotton and camphor, which they set on fire to amuse and delight the company.

From the splendor of its plumage*, it has

* If empire belonged to beauty, and not to strength, says Buffon, the peacock would inevitably be the king of birds: there are none upon which Nature has lavished her treasures with greater profusion.

been denominated, by the poets of antiquity, the bird of Juno; and as far as brilliancy of appearance would go, it certainly has claim to so distinguishing an epithet. In general, the head, neck, and breast of the peacock (*fig. 13*) are of a beautiful sapphire colour; on the top of his head is a plume of greenish feathers, somewhat resembling lily flowers; above and below his eyes are white oblong spots; his beak inclines to blue; his back and upper part of his wings are of a light ash, interspersed with transverse black spots; his tail is very long, the feathers of which frequently measure four feet, which he can at pleasure spread over his back, and being composed of a mixture of green, blue, and gold colour, ornamented with regular spots, or eyes, it has in those cases a most splendid effect, especially when displayed against the rays of the sun. The female is much smaller than the male, and has neither the tail, nor variety of colours, to boast of; her head, wings, back, belly, hips, and thighs, being of a dark ash-colour.

These birds chiefly feed on corn, particularly barley, of which they are most fond; they will, however, seek after insects with great eagerness,

eagerness, and if they can get into a garden, do considerable damage, by destroying the most tender plants, and nipping the buds of the choicest flowers. They begin to breed about February, and continue to do so till the latter end of April. The peacock, at those seasons, possesses immoderate desires, and one is quite sufficient to accompany five females*, and if there be not a sufficient number he will even pursue the sitting hen; for which reason the peahen endeavours, as much as possible, to conceal her nest from him, because he would not only disturb her sitting, but break her eggs: she seldom lays above five or six eggs in this climate before she sits. Aristotle describes the peahen as laying twelve; and probably in her native climate she may be thus prolific; for it is certain, that in the forests, where they live in freedom, they are astonishingly numerous. The peacock lives about twenty years, but it is not till his third year that his tail is adorned with the beautiful variegated plumage.

“In the kingdom of Cambaya,” says Ta-

* Buffon says, that, having consulted some very intelligent persons who reared this bird, they assured him, from their own experience, that the peacock does not require at most more than two females: perhaps this may be occasioned by the smaller heat of climate.

vernier, "near the city of Baroch, whole flocks of them are seen in the fields. They are very shy, however, and it is impossible to come near them. They run off swifter than the partridge, and hide themselves in thickets, where it is impossible to find them. They perch by night upon trees; and the fowler often approaches them at that season with a kind of banner, on which a peacock is painted to the life, on either side. A lighted torch is fixed on the top of his decoy; and the peacock, when disturbed, flies to what it takes for another, and is thus caught in a noose prepared for that purpose."

There are varieties of this bird, some of which, in the eastern parts of Africa, are perfectly white; but those will not live in the temperate climates of Europe.

The *peacock of Thibet* is the most beautiful of the feathered creation, containing, in its plumage, all the most vivid colours, red, blue, yellow, and green, disposed in an almost artificial order, as if arranged wholly to please the eye of the beholder.

The *Japan peacock* is a curious East-Indian bird, and so much valued by the Indians in some parts, that it is reckoned a crime worthy of death to kill one of them: the beak is long
and

and thin, the top of the head flat and green, the upper part of the neck is likewise green, intermixed with little blue spots, which are also diversified by very small white lines, descending from the middle of them. It has a curious tuft on the top of the head, almost four fingers long, partly green, partly blue, and not unlike a ear of wheat, or rather rye. The pupil of the eye black, the circle between the white and the pupil yellowish; the whole encompassed with a red circle; the back and breast are covered with curious party-coloured feathers, resembling scales of fish, of sky-blue and green, and green and gold colour, surprisingly intermixed; the wings are pretty near the colour of the back; the ends of the feathers quite black. The colours appear in ranges on the wings cross-ways, first green, then blue, then black, &c. The belly, hips, and feet, are of a russet colour, marked with black spots. On the belly likewise are a few white streaks, or cross lines; the tail-feathers (as in our's) are very curious; the ground colour of them is chesnut; the figures upon them resemble our's, with this difference only, that they are somewhat longer; the first colour in the figures is gold, the next sky-blue, the last green, as in our's.

The

The hen is pretty nearly like the cock, but less, and wants the curious colours with which he is adorned in her tail. Her head, neck, breast, back, and wings, are like his. But what is remarkable, the hen has upon her rump the same figures that so agreeably beautify the cock's tail: her tail is green, with some little mixture of blue: the hen likewise differs from the cock in her belly, which is quite black.

THE GROUS AND ITS AFFINITIES.

BESIDES the Cock of the Wood, the Black Cock, the Grouse, and the Ptarmigan, there are at least fifteen species which belong to this genus, and the whole of them are distinguishable from every other of the poultry kind, by having a naked skin of a scarlet colour above each eye. It appears from tradition, that formerly they were very common in England, and which, in reality, might have been the case, when a great part of the country was covered with heath, which is their natural retreat; but since cultivation has so much increased, they are scarcely to be found in any other

other places, but the extensive wastes and moors of Westmoreland, and the north of Great Britain; indeed the two first are unknown in the south, having taken refuge in the northern parts of Scotland, where they find shelter and security in the extensive heaths and forests.

The cock of the wood is almost the size of a turkey, and often weighs nearly fourteen pounds; but the female is much smaller. The head and neck are ash-colour, crossed with black lines; the body and wings chesnut brown, and the breast of a very glossy blackish green. The legs are strong, and covered with brown feathers. The plumage of the female differs, being red about the throat, and having the head, neck, and back crossed with red and black bars; the belly barred with orange and black, with the tips of the feathers white, as are also the tips of the shoulders; indeed, she is altogether so very different, that she might be supposed to belong to another species.

The cock of the wood, as we have already observed, is chiefly fond of a mountainous or woody situation. In winter he resides in the deepest recesses of the woods, and in summer he ventures down from his seclusion, to make
short

short depredations on the farmer's corn; but in these excursions he seems to be perfectly aware of his danger, and is constantly upon his guard; so much so, indeed, that it is then very difficult to come near him by surprise, and very few are taken but by those who in autumn pursue him into his natural retreats, and this is often done, because his flesh is considered as very delicate food.

When in the forest, he attaches himself principally to the oak and the pine-tree; the cones of the latter serving for his food, and the thick boughs for a habitation: and he sometimes will strip one tree bare before he attempts the cones of another. He feeds also upon ants' eggs, which seem a high delicacy to all birds of the poultry kind; cranberries are likewise often found in his crop; and his gizzard, like that of domestic fowls, contains a quantity of gravel, for the purpose of assisting his powers of digestion.

This bird begins to feel the genial influence of the spring at its first approach, and his season of love may be said to continue from that time until the trees have all their leaves, and the forest is in full bloom. During this whole season the cock of the wood may be seen

at

at sun-rise and setting, extremely active upon one of the largest branches of the pine-tree. With his tail raised and expanded like a fan, and his wings drooping, he walks backwards and forwards, his neck stretched out, his head swoln and red, and making a thousand ridiculous postures: his cry upon that occasion is a kind of loud explosion, which is instantly followed by a noise like the whetting of a scythe, which ceases and commences alternately for about an hour, and is then terminated by the same explosion. During the time he continues this singular cry he seems entirely deaf, and insensible of every danger: whatever noise may be made near him, or even though fired at, he still unconcernedly continues his call. Upon all other occasions he is the most timorous and watchful bird in nature; but then he seems entirely absorbed by his instincts, and seldom leaves the place where he first begins to express the excesses of desire. This extraordinary cry, which he accompanies by a clapping of the wings, is no sooner finished than the female, who hears it, replies, approaches, and places herself under the tree, whence the cock descends to her. The number that, on this occasion, resort to his

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call, is uncertain ; but one male generally suffices for all the females in one part of the forest. The female seldom lays more than six or seven eggs, which are white, and marked with yellow, of the size of a common hen's egg: she generally lays them in a dry place, and a mossy ground, and hatches them without the company of the cock. When she is obliged, during the time of incubation, to leave her eggs in quest of food, she covers them up so artfully with moss, or dry leaves, that it is extremely difficult to discover them ; and when sitting, though wild and timorous at other times, she will suffer the sportsmen to approach and drag her off her nest. She often keeps to her nest, though strangers attempt to drag her away.

As soon as the young ones are hatched, they run with extreme agility after the mother, sometimes even before they are entirely disengaged from the shell. The hen leads them forward to procure ants' eggs, and the wild mountain-berries, which, while young, are their only food. As they grow older, they feed upon the tops of heath and the cones of the pine-tree. In this manner they soon come to perfection: they are a hardy bird, their food lies every where before them, and it would seem that

that they should increase in great abundance: but this is not the case; their numbers are thinned by rapacious birds and beasts of every kind, and still more by their own salacious contests.

The whole brood follow the mother for about two months; at the end of which the young males entirely forsake her, and keep in great harmony together till the beginning of spring, when they bid adieu to all their former friendships. They begin to consider each other as rivals; and the rage of concupiscence quite extinguishes the spirit of society. They fight each other like game-cocks, and are so inattentive to their own safety, that it often happens two or three of them are killed at a shot. It is probable that in these contests the bird which comes off victorious takes possession of the female seraglio, as it is certain they have no faithful attachments.

The *black grouse* is a much more common species than the former: it is found in many parts of Europe, and in most of the moors in the North of England. Its name almost furnishes its description, since the whole body is black; but it has another remarkable characteristic, which is, that its tail is forked. It

is rather larger than a common fowl. The cocks are so violent against each other, and their contests so furious, that in Courland, Livonia, &c. it is a common method of taking them, to assemble them together, by imitating the crowing of a black cock, and having a figure prepared to imitate that animal in all its motions. The grouse being collected in vast numbers from all parts, enter at first into a kind of sportive combat, which presently terminates in a real and bloody contest, when the combatants are so intent upon each other's destruction that they fall an easy prey to their pursuers, and may even be knocked down with a stick. Of this species there are several varieties.

The *red grouse*, or *moor-cock*, is also tolerably plentiful in those parts where the *black grouse* is to be found, and is rather smaller than the preceding species. The throat and back are reddish, with a black spot in each feather. The breast and belly are purplish brown, and the legs are covered with soft whitish feathers; they are extremely slow in taking wing, and in general run along the ground till they come to a small hillock before they attempt it.

The

The *hazel grouse* is a smaller bird, and appears of the same species with the red grouse. It is a native of Germany.

The *pin-tailed grouse*, so called from its narrow-forked tail, is also of the same species with our red grouse. It is the size of a partridge, and is found in France, Spain, Barbary, &c.

The *ptarmigan grouse* is in length about fifteen inches. The bill is black, and the plumage is a pale ash colour, elegantly mottled with dusky spots. It is found in all the northern parts of Europe, and in the Highlands of Scotland, Orkneys, &c.

The other birds of this genus have all the same manners as the preceding, and have only some slight differences in the plumage. There is a species in North America which is called the *ruffed grouse*, and which is distinguished by a large ruff on the hind part of the neck, that is raised or depressed at pleasure ; it also has the head adorned with a crest.

THE PINTADA, OR GUINEA-HEN.

THE Pintada has been considered by some authors as the species which unites the characteristics of the pheasant and the turkey. It is about the size of a common hen, but from having longer legs it has the appearance of being much larger. It has a round back, with a tail turned downwards, like a partridge. The head is covered with a kind of casque; and the whole plumage is black or dark grey, speckled with regular and uniform white spots. It has wattles under the bill, which do not proceed from the lower chap, as in cocks, but from the upper, which gives it a very peculiar air, while its restless gait and odd chuckling sound distinguish it sufficiently from all other birds whatever. These Pintadas are said to perch upon trees in Guinea, and to spend more of their time on them than on the ground; and in the History of the Buccaneers of America there is
an

an account of a bird which the natives call the wood-pullet, but the Spaniards the pintada, which builds in the holes of the palm-tree.

This race is undoubtedly natives of Africa, but they have been generally diffused over both the old and new continent, and almost every kingdom has given them a different appellation, commonly, however, adding that of Guinea fowl. It is by no means uncommon to see large flocks of them together, in their native country, roaming about with their young in search of food. Their habits are perfectly similar with common fowls, and they seem to have no other difference except that the males and females are so nearly alike that it is difficult to distinguish one from the other.

Of this species there are many varieties, but the most remarkable is that described by Barbot, which he says he saw in vast numbers in South Guinea : these, according to that author, have long slender necks ; their bills are brown at the points, and the upper parts red ; their heads are a deep brown, with a horny substance at the top ; on each side is a fleshy prominence of a pale blue, and the back part is of a reddish brown ; their bodies are of a dark ash colour, pretty much chequered with white spots ; their
breasts

breasts of a pale ash, and their legs of a dusky flesh colour. He relates a remarkable instance of the superstition of the natives of that country with respect to this fowl. He says it is the custom there, when any of the princes, especially in Folgias, have concluded an alliance with any neighbouring potentate, as well as among private persons, to cause some pullets of this kind to be dressed, and eat them together, after each treating party has been marked with some drops of the blood of the animals (which by them is considered as sacred) ; they also carefully preserve the bones of them, because if one of the parties shew an inclination to break the treaty, those bones are produced for him to shew cause for the breach thereof*.

* This is an active, restless, and turbulent bird, which does not like to remain long in a place ; he is fierce, and renders himself formidable even to turkeys, though he is much less than they. He will give them, says Margat, twenty blows with his beak ere those great birds are ready to defend themselves.

 THE PHEASANT.

THE Pheasant is universally admitted to be a native of the Old Continent, and ancient authors have supposed it to have been originally found on the banks of the Phasis, a river of Colchis, in Asia Minor*, from which its name also appears to be derived. However that be, the species has long been spread over the greatest part of the known world, and for many ages has been held in high estimation, both on account of the savouriness of its flesh, and the brilliancy of its plumage. In the latter respect it is among those birds that leave the efforts of the artist at a distance; he may indeed delineate a perfect resemblance of its form, and give an idea of its colours, but the vivid shades of its natural brilliancy far outvie the powers of art. It is recorded that when Cræsus, king of Lydia, was seated on his throne, adorned with royal magnificence, and all the blazing pomp of Eastern

* The Argonauts who went to Colchis brought these birds back with them; “a present,” says Buffon, “more rich than the golden fleece.”

Argivâ primum sum transportata carinâ

Ante mihi notum nil, nisi Phasis, erat.

MARTIAL.

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G g

splendor,

splendor, he asked Solon if he had ever beheld any thing so fine. The Greek philosopher, no way moved by the objects before him, or taking a pride in his native simplicity, replied, he had seen the beautiful plumage of the pheasant, and therefore could be astonished at no other finery; and we perfectly agree with that great philosopher, that nothing can exceed the variety and richness of colours of this beautiful creature. The iris of the eyes is yellow, and the eyes themselves are surrounded with a scarlet colour, sprinkled with small specks of black. On the fore-part of the head there are blackish feathers mixed with a shining chesnut. The top of the head, and the upper part of the neck, are like silk, and are shaded with blue, green, and gold, so curiously intermixed as sometimes to appear blue and sometimes green, according as they happen to be differently presented to the eye of the spectator. The feathers of the breast, the shoulders, the middle of the back, and the sides under the wings, have a blackish ground, with edges tinged of an exquisite colour, which appear sometimes black and sometimes purple, according to the different lights they are placed in: under the purple there is a transverse streak of gold colour. The tail, from the middle feather to the root, is about eighteen inches long; the

the legs, the feet, and the toes, are of the colour of horn. There are black spurs on the legs, shorter than those of a cock; and a membrane that connects two of the toes together. The male is much more beautiful than the female, who is generally of a light brown, intermixed with black.

The flesh of this bird has been long considered as one of the greatest dainties; and when the old physicians spoke of the wholesomeness of any viands, they made their comparison with the flesh of the pheasant. These perfections were doubtless sufficient temptations for man to endeavour to render it domestic, but he has in vain employed his ingenuity for that purpose; for however it has been bred, or in whatever manner it has been instructed, no sooner has it obtained its liberty, than, disdaining the protection of man, it has left him, to take shelter in the thickest woods and remotest forests. Almost all others of this kind, as the cock, the turkey, or the pintada, when once reclaimed, continue in their domestic state, and preserve the habits and appetites of willing slavery; but the pheasant, though taken from its native warm retreats, where the woods supply variety of food, and the genial sun suits its tender constitution, and brought into our climates, still

continues its attachment to native freedom; and prefers a scanty supply of acorns and berries, in our parks and woods, to the care and attention that would be paid him in a domestic state: and even when kept in captivity, upon all occasions he shews his spirit of independence.

When at liberty in the woods, the hen pheasant lays from eighteen to twenty eggs in a season, but when kept in confinement she seldom lays above ten. In the same manner, when at liberty, she hatches and trains up her brood with patience, vigilance, and courage; but if kept in confinement, she can scarcely ever be brought to sit with sufficient attention; so that a common hen is generally her substitute upon such occasions; and even when she does hatch them, so far from attending and teaching them to seek their food, the young birds would starve, if left solely to her protection. The pheasant, therefore, on every account, should be left to range at large in the woods, for its fecundity, when wild, is sufficient to stock the forest; its beautiful plumage adorns it; and its flesh retains a higher flavour from unlimited freedom.

Pheasants, like all others of the poultry kind, have no great sagacity, and easily suffer themselves

themselves to be taken. At night they roost upon the highest trees of the wood; and by day they come down into the lower brakes and bushes, where their food is chiefly found. They generally make a kind of flapping noise when they are with the females; and this serves to apprise the sportsman of their retreats. At other times they are traced in the snow, and frequently taken in springes. But of all birds they are shot most easily, as they always make a whirring noise when they rise, by which they give notice of their exact situation, and being a large mark, and flying very slow, they scarcely ever escape*.

It is no very uncommon practice to procure the eggs of the pheasant, and put them under a common hen, in which case the young become as familiar as chickens; and when they are kept for breeding, it is necessary to put five hens with

* Pope, in his "Windsor Forest," thus beautifully describes this bird:

See! from the brake the whirring pheasant springs,
And mounts exulting on triumphant wings.
Short is his joy; he feels the fiery wound,
Flutters in blood, and, panting, beats the ground.
Ah! what avail his glossy, varying dyes,
His purple crest, and scarlet circled eyes;
The vivid green his shining plumes unfold,
His painted wings, and breast that flames with gold?

one cock. In her natural state the female makes her nest of dry grass and leaves; the same must, therefore, be laid for her where they are kept, and she will herself, sometimes, properly dispose them. The young ones are very difficult to be reared; and they must be supplied with ant-eggs, which is the food that the old one leads them to gather when wild in the woods. These, however, may be chopped up with curds or meat, but they must be fed with great exactness, both as to the quantity and the time of their supply. It is also requisite that their food should sometimes be varied, and then they may be supplied with wood lice, ear-wigs, and other insects. The place where they are reared must be kept extremely clean; their water must be changed twice or thrice a day; they must not be suffered to go upon the grass before the dew is off the ground in the morning, and they should always be taken in before sun-set. When they become adult, they may be fed with any kind of grain, but oats and barley are their favourites.

Longolius recommends the following simple method for increasing the breed. "The pheasant is a very bold bird when first brought into the yard among other poultry, and will spare neither cocks nor hens which it can master; but after
a time

a time it will live tamely among them, and at last be brought to couple with the common hen. The breed thus produced take much stronger after the pheasant than the hen; and if the females were again supplied with a cock pheasant, for the breed is not barren, the next race would advance still nearer, and so on, till at last there would be little difference between them and the original stock of the male; and yet such thus produced would have the advantage of being more tame than they can be rendered by any other mode." The former part, however, is almost unnecessary, as the cock pheasants, in the spring, frequently come into the farm-yards early in the morning for the purpose of courting the hens, and will not molest any but such of the cocks as shew an inclination to interrupt their pleasures.

The pheasant, when full grown, seems to feed indifferently upon every thing that offers. A French writer asserts, that one of the king's sportsmen shooting at a parcel of crows, that were gathered round a dead carcass, found upon coming up, to his great surprise, that he had killed as many pheasants as crows. It is even asserted by some, that such is the carnivorous disposition of this bird, that when several of them are put together in the same yard, if one happen to fall sick, or seem to be pining, all the

the rest will fall upon, kill, and devour it. But of the veracity of this assertion we have our doubts, never having met with a single observer of the manners of these animals who considered it as a fact.

Of the pheasant tribe there are several varieties, but they all preserve a superiority in the beauty of their plumage. Some of them are spotted all over with a wonderful degree of brilliancy, and are called *peacock pheasants*, while others are ornamented with a beautiful crest. The most remarkable, however, are

The *golden pheasant*, which is principally found in China, and is about the size of the English pheasant. Its bill is of a light brown; the iris of the eyes yellow; the feathers on the upper part of the head of the same colour, with a curious long crest of scarlet feathers hanging down on the back part of the neck, beautifully variegated with black circular lines, which reach down a considerable way on the back, and which it has the power of erecting at pleasure; the rest of the back is of a reddish yellow; the scapular feathers of the wings, the fore-part of the breast, neck, and belly, are of a fine scarlet. The upper covert feathers are of a darkish blue, shaded with a gold colour: the first feathers of the
other

other rows are of a dark yellow spotted with brown ; the longest tail feathers are of a deepish red tipped with a fine yellow ; and the legs and feet are of the same colour.

The *silver pheasant* is also about the size of the former, and belongs to the Eastern climates : its bill is of a dusky yellow, from the base of which, along the upper part of the head, is a line of long black feathers ; the eyes are encircled with a small row of white feathers, surrounded with a larger circle of scarlet, speckled with deep red, which reaches from the bill to the hind part of the head, and are considerably broader than the red in the English cock pheasant ; the back, neck, and wings are white, interspersed with a few dark shades ; the breast, and under part of the belly, are nearly black, beginning at the base of the under mandible, spreading itself broader on the sides of the belly, and decreasing into a point under the tail ; the thighs are dark, the feet a fine scarlet, and the claws black.

The whole of this race have the same habits and customs as those which we have already described, and their chief, if not only, difference consists in the variation in the colour of their plumage*.

* It is asserted that the pheasant is a stupid bird, which

THE PARTRIDGE.

PARTRIDGES are pretty generally known in all parts of the inhabited globe, and like all others, especially of the poultry kind, so universally diffused, include several varieties; though this race is not, in that respect, so conspicuous as many of those we have already treated of.

The common partridge has a remarkable plump body, and weighs about fourteen or fifteen ounces: on the sides of the head, and under the bill, it is a deep saffron colour. The cock has on his breast a red mark, nearly of the shape of a horse-shoe, down to which the feathers are of a bluish ash, varied with black transverse lines. The back and wings are party-coloured, red, ash, and black. The hen is rather less than the cock, and has much less red under her throat.

“These birds,” says Willoughby, “hold the principal place in the feasts and entertainments. It thinks itself in safety when its head is hid: this has also been said of other birds. A young pheasant very fat is an exquisite morsel, and, at the same time, a very healthy nourishment. These birds, according to Olina, live about six or seven years.

ments

ments of princes, without which their feasts are esteemed ignoble, vulgar, and of no account. The Frenchmen do so highly value and are so fond of the partridge, that if they be wanting, they utterly slight and despise the best spread tables, as if there could be no feast without them." But however this might be the case in the times of our historian, the partridge is now too common in France to be considered as a peculiar rarity. In England, however, where they are not so plenty, they are still a favourite delicacy at the tables of the rich; and the desire of keeping it to themselves has induced them to make laws for its preservation, very little congenial to the general spirit of English legislation. The sentiments of a well-known author upon this subject are in such exact unison with right reason and justice, that they deserve to be universally recorded. "What," says he, "can be more arbitrary than to talk of preserving the game, which, when defined, means nothing more than that the poor shall abstain from what the rich have taken a fancy to keep for themselves? If these birds could, like a cock or a hen, be made legal property, by being taught to keep within certain districts, and only feed on those grounds

that belong to the man whose entertainments they improve, it then might, with some shew of justice, be admitted, that as he fed so he might claim them. But the contrary is the case, nor will the vanity of man induce him to attempt laying a restraint upon the liberty of those birds, which, when let loose, put no limits to their excursions. They feed every where; upon every man's ground; they are nourished by all, consequently belong to all; and therefore it is impossible to trace upon what reasonable ground any one man, or set of men, can lay claim to them while still continuing in a state of nature.

“ I never walked out about the environs of Paris that I did not consider the immense quantity of game that was running almost tame on every side of me, as a badge of the slavery of the people, and what some of my friends wished me to observe as an object of triumph, I always regarded with a kind of secret compassion; yet this people have no game-laws for the remoter parts of their kingdom: the game is only preserved in a few places for the king, and is free in most of the open parts of the country. In England the prohibition is general;

ral; and the peasant has not a right to what even slaves, as he is taught to call them, are found to possess."

There are two distinct species of partridges familiar in these climates, the one being of a red shade throughout his feathers, and much larger than what is called the common partridge; the latter are found in most countries in Europe; they feed on snails, ants, ant-eggs, grain, and leaves; they generally lay from twelve to eighteen eggs, most of which they hatch, and are particularly attentive to their young, inso-much, that whenever a dog, or any other animal, approaches their nest, the females act with the greatest subtilty: quitting their young, they will just rise above the head of their enemy, and, pretending to be unable to fly, fall down at a little distance before him; this they will repeat until they have drawn him to a considerable distance from their offspring, and then taking wing they return to them, leaving him the dupe of his credulity. They do not, however, fly to the spot where they left them, but drop at some distance, and call them, which they immediately obey, and follow wherever they lead their course. Through the winter the young keep constantly with their mother, and fly

fly in covies, but on the appearance of spring they separate into pairs, and upon this occasion they fight very desperately; most probably for the choice of a favourite mate. The males are exceedingly salacious, more so, it has been asserted, than any other bird; it is certain that he will pursue the female to her nest, and it is even affirmed, that whenever he finds any of her eggs he will break them, that the care of hatching them may not deprive him of her society. On the other hand, naturalists have insisted that the female is so attached to the office of incubation, that if, by chance, she lose any of her own eggs, she will steal those belonging to another, convey them to her nest, and sit upon them as her own; nor have they left this almost incredible story here, but persist that the circumstance may always be known by the young ones, thus hatched, refusing to follow their quondam mother, and deserting her and the other part of the brood as soon as they are able.

M. Thevenot mentions these partridges as being very numerous in the Levant, where he says they keep them tame like turtles, and have keepers who drive them out in the morning
and

and whistle them in at night, which they always obey.

Of this species there are also many varieties; the most particular of which are, the *American* or *West-India partridge*: this is much larger in size than the English one; the bill being thicker and stronger, bears some resemblance to that of a hawk. The colour, both of the bill and legs, together with a circle round the eye, are of a light brown, or reddish colour. The whole plumage of the body is somewhat darker than the common partridge; and in some parts of America they are so much inclined to a dark grey, or shining black, that some travellers have described them as *black partridges*.

Lahonton, in his voyage to North America, says, that they have a sort of white partridges, about the size of ours, which he describes as the most stupid animal in the world, and says it sits upon the snow, and suffers itself to be knocked on the head with a pole without offering to stir.

The *hare-footed partridge*. There are two kinds of this bird. The first is about the bigness of a dove, and of such an exquisite and snowy whiteness, that it discovers itself and
is

is often taken by that means ; but the feet and bill are black, and the fine skin of the eye-lid is red, especially in the male. The neck is diversified here and there with black spots ; and the bottom part, or roots, of the feathers are blackish.

The other is about the size of a quail, and of a yellowish hue ; but on the back and neck almost of the colour of a woodcock. The wings, near the body, have white, dusky, and sandy coloured feathers intermingled ; but those of the pinions are of an ash colour. The belly, and inside of the wings, are white ; and they are never without a ring on the breast, of a red, yellow, and sandy colour intermixed.

It takes its name of *lagopus*, or *hare-footed*, from the resemblance its foot has to that of a hare.

In fact, the partridge seems to be well known all over the world ; it is found in every country, and in every climate, as well in the frozen regions about the pole as the torrid climes under the equator. It seems even to adapt itself to the nature of the climate where it resides. In Greenland, the partridge, which is brown in summer, as soon as the icy weather sets in, begins to take a covering suited to the season ; it is then

then clothed with a warm down beneath; and its outward plumage assumes the colour of the snow, amongst which it seeks its food. Thus it is doubly fitted for the place, by the warmth and the colour of its plumage; the one to defend it from the cold, the other to prevent its being noticed by the enemy. Those of Barakonda, on the other hand, are longer legged, much swifter of foot, and chuse the highest rocks and precipices to reside in. They are also found in the Alps and Pyrennean mountains, where they are so fond of frost and snow, that as soon as the former begins to melt in the lower part of the mountains, they remove higher, to places where the sun has less power, and the cold is more intense.

THE QUAIL*.

THE Quail is not above half the size of a partridge, whom it very much resembles in shape and manners. The feathers of the head

* Theophrastus found so great a resemblance between the partridge and the quail, that he called the latter *dwarf partridges*; and it is doubtless a result of this error that the Portuguese have called the partridge *codornix*, and that the Italians have applied the name of *coturnice* to the Greek partridge.

are black, edged with rusty brown; the breast is of a pale yellowish red, spotted with black; the feathers on the back are marked with lines of a pale yellow, and the legs are of a pale hue.

The quail is certainly a bird of passage; and yet, when we consider its heavy manner of flying, and its dearth of plumage, compared to its corpulence, it appears surprising how a bird so apparently ill qualified for migration should take such extensive journies; yet nothing, however, is more certain: "When we sailed from Rhodes to Alexandria," says Belon, "about autumn, many quails, flying from the north to the south, were taken in our ship; and sailing at spring-time the contrary way, from the south to the north, I observed them on their return, when many of them were taken in the same manner." This account is confirmed by many others, who aver, that they chuse a north wind for these adventures; the south wind being very unfavourable, as it retards their flight, by moistening their plumage. They then fly two by two; continuing, when their way lies over land, to go faster by night than by day; and to fly very high, to avoid being surprised or set upon by birds of prey. It has, however, become a doubt whether quails take such long journies as Belon has made them

them perform ; and several authors have asserted that they only migrate from one province of a country to another. For instance, that in England, at the close of autumn, they fly from the inland counties to those bordering on the sea, and continue there all the winter : and also that they quit the stubble fields and marshes on the appearance of frost and snow, and retreat to the sea side, where they shelter themselves among the weeds, and live upon what is thrown up from the sea, particularly in Essex ; and the time of their appearance upon the coasts of that county exactly coincides with their disappearance from the more internal parts of the kingdom ; from which the conclusion has been confidently drawn, that they do not migrate across the sea ; but this is inferred upon a very slight foundation, as their assembling at those particular periods on the sea-coast may equally as well be supposed to be for the purpose of taking flight, as to conceal themselves among the reeds*.

The quail is much less prolific than the partridge ; it seldom lays more than six or seven whitish eggs, which are marked with ragged, rust coloured spots. But their ardour in courtship, says a modern author, scarcely yields to any bird, as they are fierce and cruel at that

* Belon positively asserts that quails are birds of passage.

season to each other, fighting most desperately, and during which rencounters they will frequently suffer themselves to be taken. Quail-fighting was a favourite amusement among the Athenians; they abstained from its flesh, from an idea that it was unwholesome, supposing that it fed upon the white hellebore; but they reared great numbers of them for the pleasure of seeing them fight; and they were as regularly trained for the contest as game-cocks are in the present day.

These birds are very easily taken by artifice; they have a very peculiar call, which the fowler finds it very easy to imitate: being so prepared, he goes out early in the morning, and having spread his net in a convenient place, he imitates the call of the female with what is called a quail-pipe: this is no sooner heard by the male, than he flies eagerly to the spot, and being entirely taken up with the thoughts of the female, he carelessly goes into the net, and, as the moralist observes, becomes a victim to his passions*.

* The quail, like the partridge and other animals, produces only when in a state of liberty: it is in vain that you furnish to those who are confined all the materials for nidification; they will never use them, nor do they take any care of the eggs which they produce, and which they seem to lay against their inclination.

OF THE PIE KIND.

WITHOUT pretending to give a regular arrangement to this most numerous part of the animal creation, or attempting to class birds which philosophy may presume to be possible, but whose distinctions, reason seems to tell us, are beyond the comprehension of man, we shall, nevertheless, so far follow precedent, as to keep them in some degree of order; and upon this principle it is that we now proceed to a genus, which, though in some things similar to all the foregoing, yet their differences are so great, that they cannot justly be said to belong to either.

To speak of this race in general terms, we cannot be more explicit than in quoting the words of a modern author, who says, “ Under
“ this (the pie) class of birds, we might place
“ all that noisy, restless, chattering, teasing
“ tribe

“ tribe that lies between the hen and the thrush ;
“ that, from the size of the raven down to that
“ of the wood-pecker, flutter round our habi-
“ tations, and rather with the spirit of pilferers
“ than of robbers, make free with the fruits of
“ human industry.

“ Of all the other classes, this seems to be
“ that which the least contributes to furnish
“ out the pleasures or supply the necessities
“ of man. The falcon hunts for him ; the
“ poultry tribe supplies him with luxurious
“ food ; and the little sparrow race delights him
“ with the melody of their warblings. The
“ crane kind make a studied variety in his en-
“ tertainments ; and the class of ducks are not
“ only many of them delicate in their flesh,
“ but extremely useful for their feathers. But
“ in the class of the pie kind there are few,
“ except the pigeon, that are any way useful.
“ They serve rather to teaze man than to assist
“ or amuse him. Like faithless servants, they
“ are fond of his neighbourhood, because they
“ mostly live by his labour ; but their chief
“ study is what they can plunder in his ab-
“ sence, while their deaths make him no atone-
“ ment for their depredation.

“ But

“ But though, with respect to man, this
“ whole class is rather noxious than beneficial,
“ though he may consider them in this light
“ as false, noisy, troublesome neighbours, yet,
“ with respect to each other, no class of birds
“ are so ingenious, so active, or so well fitted
“ for society. Could we suppose a kind of
“ morality among birds, we should find that
“ these are by far the most industrious, the
“ most faithful, the most constant, and the
“ most connubial. The rapacious kinds drive
“ out their young before they are fit to struggle
“ with adversity ; but the pie kind cherish their
“ young to the last. The poultry class are
“ faithless and promiscuous in their connec-
“ tions, but these live in pairs, and their at-
“ tachments are wholly confined to each other.
“ The sparrow kind frequently overleap the
“ bounds of Nature, and make illicit varieties ;
“ but these never. They live in harmony
“ with each other ; every species is true to its
“ kind, and transmits an unpolluted race to
“ posterity, . . .

“ As other kinds build in rocks, or upon
“ the ground, the chief place where these build
“ is in trees or bushes : the male takes his
“ share

“ share in the labours of building the nest, and
“ often relieves his mate in the duties of incu-
“ bation. Both take this office by turns; and
“ when the young are excluded, both are
“ equally active in making them an ample
“ provision.

“ They sometimes live in societies; and in
“ these there are general laws observed, and a
“ kind of republican form of government esta-
“ blished among them. They watch not only
“ for the general safety, but for that of every
“ other bird of the grove. How often have
“ we seen a fowler, stealing in upon a flock of
“ ducks or wild geese, disturbed by the alarm-
“ ing notes of a crow or a magpie; its single
“ voice gave the whole thoughtless tribe warn-
“ ing, and taught them in good time to look
“ to their safety.

“ Nor are these birds less remarkable for
“ their instincts than their capacity for instruc-
“ tion. There is an apparent cunning, or
“ archness, in the look of the whole tribe; and
“ I have seen crows and ravens taught to fetch
“ and carry with the docility of a spaniel. In-
“ deed, it is often an exercise that, without
“ teaching, all this tribe are but too fond of.

“ Every

“ Every body knows what a passion they have
“ for shining substances, and such toys as some
“ of us put a value upon. A whole family has
“ been alarmed at the loss of a ring; every
“ servant has been accused, and every creature
“ in the house, conscious of their own inno-
“ cence, suspected each other, when, to the
“ utter surprise of all, it has been found in the
“ nest of a tame magpie, or a jack-daw, that
“ nobody had ever thought of.

“ However, as this class is very numerous,
“ it is not to be supposed that the manners
“ are alike in all. Some, such as the pigeon,
“ are gentle and serviceable to man; others
“ are noxious, capricious, and noisy. In a
“ few general characters they all agree; name-
“ ly, in having hoarse voices, slight active
“ bodies, and a facility of flight that baffles
“ even the boldest of the rapacious kinds in the
“ pursuit.”

THE RAVEN.

THE Raven is a large strong bodied bird, and some have been seen which measured nearly two feet from the tip of the bill to the end of the tail: it has a strong, sharp, black bill, the upper part of which is somewhat hooked, and the lower very nearly straight; the whole body is black, but bears a kind of bluish splendor or gloss, more especially upon the tail and wings: the belly is of a paler colour, and more inclining to a brown: it has strong limbs with large crooked claws: 'tis said by some that it will devour living birds after the manner of hawks, but it feeds chiefly upon carrion and dead carcasses, and sometimes upon fruit and insects.

They are found in every region of the world; are strong and hardy, and uninfluenced by the changes of the weather: when other birds seem benumbed with cold, or pining with famine, the raven is active and healthy, busily employed in prowling for prey, or sporting in the coldest atmosphere. He bears the heat under the line and the cold of the polar countries with equal indifference. He is sometimes indeed seen milk
white,

white, arising probably from the same influence of climate which has an effect upon most other animals in the northern part of the world, where their robes, particularly in winter, assume the colour of the country they inhabit.

White ravens are often shewn among us, and it is pretended they are rendered so by art, and sometimes by the cruel practice of plucking out all their black feathers while alive; in which case, it is said, they will be succeeded by others perfectly white. In their habits and dispositions they are extremely docile, and a raven may be reclaimed to almost every purpose to which birds can be converted. He may be trained up for fowling like a hawk; he may be taught to fetch and carry like a spaniel; he may be taught to speak like a parrot, and even taught to sing like a man; for Goldsmith says, “ I have heard a raven sing the Black Joke with great distinctness, truth, and humour.”

When the raven is taken from the nest, and trained up as a domestic, he has many qualities that render him extremely amusing. Busy, inquisitive, and impudent, he goes every where; affronts and drives off the dogs, plays his pranks on the poultry, and is particularly assi-

duous in cultivating the good will of the cook-maid, who with him is favourite of the family. But with all these amusing qualities he is not destitute of vices and defects. He is a glutton by nature, and a thief by habit. He does not confine himself to petty depredations on the pantry for the gratification of his appetite, but he soars at plunder which he can neither exhibit nor enjoy, but which, like a miser, satisfies him by sometimes visiting and contemplating it in secret. A piece of money, a tea-spoon, or a ring, are always tempting baits to his avarice; these he will slyly seize upon, and carry to some favourite hole, which he has previously fixed upon for the purpose.

In his wild state the raven is an active and greedy plunderer. Nothing comes amiss to him; whether his prey be living, or has been some time dead, it is all the same, he falls to with a voracious appetite; and when he has gorged himself, flies to acquaint his fellows, that they may participate of the spoil. If he behold a carcass in the possession of some more powerful animal, as a wolf, a fox, or a dog, the raven sits at a little distance, an humble spectator till it has done, knowing, from experience,

rience, that he shall come in for a share upon its departure. If in his flights he perceive no hopes of carrion, (and his scent is so exquisite that he can smell it at a vast distance) he then contents himself with fruits, insects, and the accidental desert of a dunghill.

The raven chiefly builds its nest in trees, and lays five or six eggs of a pale green colour, marked with small brownish spots. They live sometimes in pairs, and sometimes frequent, in great numbers, the neighbourhood of populous cities, where they are useful in devouring those carcasses that would otherwise putrefy and infect the air. They build in high trees or old towers, in the beginning of March with us in England, and sometimes sooner, as the spring is more or less advanced for the season. But it is not always near towns that they fix their retreats: they often build in unfrequented places, and drive all other birds from their vicinity. They will not permit even their young to keep in the same district, but drive them off when they are sufficiently able to shift for themselves.

In their wild state they are exceedingly cunning and mischievous, and whenever they observe a sheep or a lamb which is sick or helpless, they

they are sure to pick out its eyes ; yet in most countries they have a degree of respect paid to them, and in the eastern ones they were held in great veneration, as being the birds that fed the prophet Elijah in the wilderness. This prepossession in favour of the raven is of very ancient date, as even the Romans, who thought the bird ominous, paid it, from motives of fear, the most profound veneration. One of them, which, according to Pliny, had been kept in the temple of Castor, flew down into the shop of a tailor, who took much delight in the visits of his new acquaintance. He taught the bird several tricks, but particularly to pronounce the names of the Emperor Tiberius and the whole royal family. The tailor was beginning to grow rich by those who came to see this wonderful raven, till an envious neighbour, displeased at the tailor's success, killed the bird, and deprived the tailor of his future hopes of fortune. The Romans, however, took the poor tailor's part ; they punished the man who offered the injury, and gave the raven all the honours of a magnificent interment*.

Birds

* Pliny also mentions that one Craterus, an Asiatic, had rendered himself famous for taming and educating ravens ;

Birds in general live longer than quadrupeds, and the raven is said to be one of the most long-lived of the number. Hesiod asserts that a raven will live nine times as long as a man; but though this is fabulous, it is certain that some of them have been known to live near a hundred years. In clear weather the ravens fly in pairs to a great height, making a deep, loud noise, different from that of their usual croaking; and from having a strong scent and clear sight, they are thus enabled to perceive their prey at a considerable distance.

The *common carrion-crow* is considerably less than the raven, and has a straight, strong, thick bill, a good deal like the raven's; the feathers over the whole body are black, only the bottom parts of them are rather of a lead colour. It feeds generally upon the dead and putrid carcasses of animals, of almost any kind, and will likewise devour birds, grain, and many sorts of insects. It builds upon high trees, and lays four or five eggs, much like the

ravens; he could make them follow him, even wild ravens. Scaliger relates that King Louis (probably Louis XII) had one thus tamed, which he used for catching partridges: Albertus saw one at Naples which caught partridges, pheasants, and even other ravens; but to do this last, it was necessary in a manner to force him.

raven's,

raven's, but not so large. This bird is said to have a very sagacious scent, insomuch that it will smell gunpowder at a considerable distance, so that it is difficult to shoot it.

The account which Alonzo de Ovallo gives of the crows of Chili is very remarkable; he says that in those years that are to prove rainy, it is observed by the inhabitants, that as soon as the weather grows cold, before the winter begins, they are certain to see every evening, for many days together, great quantities of crows come down from the Cordeliers into the plains; they come an hour before sun-set, in squadrons, forming a triangle, or pyramid, the point of which is led by a single one, before whom none dare go: the figure they make is most regular, as if they were fixed in the air and immoveable; so equal and well concerted is their flight.

Morella, in his description of Congo, says, the crows there are white upon their breasts and on the tops of their wings, but black every where else, like those in Europe.

We now proceed to the *rook*, which, though bearing a great similarity, and is therefore considered as appertaining to the same class, is, nevertheless, very different in his disposition, as neither he, nor any of those of whom he may
be

be said to stand at the head, are in the smallest degree carnivorous, but feed entirely on grain and insects. He is something larger than the crow, and may be distinguished by the bills, the rook's being of a whitish colour: they are said to have no craw, but a sort of gullet below the bill, which upon occasion dilates itself into a sort of bag, in which it carries its meat that it has gathered for its young from a considerable distance.

The *royston crow* is about the same size; his breast, belly, back, and upper part of the neck, are of a pale ash-colour; his head and wings glossed over with a fine blue. He is a bird of passage, visiting this kingdom in the beginning of winter, and leaving it in the spring. He breeds, however, in different parts of the British dominions; and his nest is common enough in trees in Ireland.

The *jack-daw* is also black on the upper parts, but ash-coloured on the breast and belly. He is not above the size of a pigeon. He is docile and loquacious. His head is large for the size of his body, which argues him ingenious and crafty. He builds in steeples, old castles, and high rocks, laying five or six eggs in a season.

The *Cornish chough* is like a jack-daw, but bigger, and almost the size of a crow. The feet and legs are long, like those of a jack-daw, but of a red colour; and the plumage is black all over. Like the daw, it frequents rocks, old castles, and churches, by the sea-side, and with the same noisy assiduity. It is only seen along the western coasts of England. These are birds very similar in their manners, feeding on grain and insects, living in society, and often suffering castigation from the flock for the good of the community.

The rook builds in woods and forests in the neighbourhood of man, and sometimes makes choice of groves, in the very midst of cities, for the place of its retreat and security. In these it establishes a kind of legal constitution, by which all intruders are excluded from coming to live among them, and none suffered to build but acknowledged natives of the place. "I have often," says a celebrated author, "admired myself with observing their plan of policy from my window that looks upon a grove where they have made a colony in the midst of the city. At the commencement of spring, the rookery, which, during the continuance of winter, seemed to have been deserted,

“serted, or only guarded by about five or six,
“like old soldiers in a garrison, now begins to
“be once more frequented, and in a short time
“all the bustle and hurry of business is fairly
“commenced. Where these numbers resided
“during the winter is not easy to guess; per-
“haps in the trees of hedge-rows, to be nearer
“their food. In spring, however, they culti-
“vate their native trees, and, in the places
“where they were themselves hatched, they
“prepare to propagate a future progeny.

“They keep together in pairs; and when
“the offices of courtship are over, they pre-
“pare for making their nests and laying. The
“old inhabitants of the place are all already
“provided; the nest which served them for
“years before, with a little trimming and dress-
“ing, will serve very well again: the diffi-
“culty of nestling lies only upon the young
“ones who have no nest, and must therefore
“get up one as well as they can. But not only
“the materials are wanting, but also the place
“in which to fix it. Every part of a tree will
“not do for this purpose, as some branches
“may not be sufficiently forked; others may
“not be sufficiently strong; and still others
“may be too much exposed to the rockings

“ of the wind. The male and female upon
“ this occasion are, for some days, seen exa-
“ mining all the trees of the grove very atten-
“ tively; and when they have fixed upon a
“ branch that seems fit for their purpose, they
“ continue to sit upon and observe it very se-
“ dulously for two or three days longer. The
“ place being thus determined upon, they be-
“ gin to gather the materials for their nest,
“ such as sticks and fibrous roots, which they
“ regularly dispose in the most substantial man-
“ ner. But here a new and unexpected ob-
“ stacle arises. It often happens that the young
“ couple have made choice of a place too near
“ the mansion of an older pair, who do not
“ chuse to be incommoded by such troublesome
“ neighbours. A quarrel, therefore, instantly
“ ensues, in which the old ones are always
“ victorious.

“ The young couple, thus expelled, are oblig-
“ ed again to go through the fatigues of deli-
“ berating, examining, and chusing; and hav-
“ ing taken care to keep their due distance,
“ begin their nest again, and their industry de-
“ serves commendation. But their alacrity is
“ often too great in the beginning: they soon
“ grow weary of bringing the materials for their
“ nest

“ nest from distant places, and they very easily
“ perceive that sticks may be provided nearer
“ home, with less honesty, indeed, but with
“ some degree of address. Away they go,
“ therefore, to pilfer as fast as they can ; and
“ wherever they see a nest unguarded, they take
“ care to rob it of the very choicest sticks of
“ which it is composed. But these thefts never
“ go unpunished ; and probably upon com-
“ plaint being made there is a general punish-
“ ment inflicted. I have seen eight or ten
“ rooks come upon such occasions, and, setting
“ upon the new nest of the young couple all
“ at once, tear it to pieces in a moment.

“ At length, therefore, the young pair find
“ the necessity of going more regularly and ho-
“ nestly to work. While one flies to fetch the
“ materials, the other sits upon the tree to guard
“ it ; and thus in the space of three or four
“ days, with a skirmish now and then between,
“ the pair have fitted up a commodious nest
“ composed of sticks without, and of fibrous
“ roots and long grass within. From the in-
“ stant the female begins to lay, all hostilities
“ are at an end ; not one of the whole grove,
“ that a little before treated her so rudely, will
“ now venture to molest her ; so that she
“ brings

“ brings forth her brood with patient tranquillity. Such is the severity with which even native rooks are treated by each other: but if a foreign rook should attempt to make himself a denizen of their society, he would meet with no favour; the whole grove would at once be up in arms against him, and expel him without mercy.”

These birds are found in most countries; in some every means are taken to destroy them, while in others they are considered as a benefit; for as they live chiefly on the worm of the dorbeetle and on grain, they may be said to do as much service by destroying that noxious insect, as they do injury by consuming the produce of the field.

Of this tribe of the crow-kind, there are a great number of varieties.

The *calao*, or *horned Indian raven*, exceeds the common raven in size, and in habits of depredation. But what he differs from all other birds in is the beak, which, by its length and curvature at the end, appears designed for rapine; but then it has a kind of horn standing out from the top, which looks somewhat like a second bill, and gives this bird, which is otherwise fierce and ugly, a very formidable appearance.

ance. The horn springs out of the forehead, and grows to the upper part of the bill, being of great bulk ; so that near the forehead it is four inches broad, not unlike the horn of the rhinoceros, but more crooked at the tip. Were the body of the bird answerable in size to the head, the calao would exceed in magnitude even the vulture or the eagle ; but the head and beak are out of all proportion, the body being not much larger than that of a hen. In this race, however, there are considerable differences ; for in those which come from different parts of Africa the body is proportionable to the beak ; in such as come from the Molucca Islands, the beak bears no proportion to the body. Of what use this extraordinary excrescence is to the bird it is not easy to determine : it lives, like others of its kind, upon carrion, and seldom ventures to attack a living animal.

The *night raven*, which is very common in Holland, has a long bill, black at the point, and of a yellowish green towards the base, which colour extends towards the back part of the eyes, and is encircled with a white line from the bill ; the iris of the eyes is of an orange colour, and upon the top of the head there is a kind of black crown, from the back part of which

which there is a curious crest of three white feathers, that are at least five inches long, and which hang down over the back, and distinguish it from all other birds; it is of a yellowish brown on the upper part of the neck, white under the chin, and upon the breast, with a faint tincture of brown; its back and wings black, shaded with green, some of the edges of the feathers being tintured with red. They principally feed upon beetles and other insects, are full as large as a common raven, build their nests upon very high trees, and lay four or five whitish eggs.

The *capricalca*, called by the Hollanders *rotganson*, is a little larger than the common crow, but somewhat less than the raven; he has a strong hooked bill; the wings and back are of a lead colour, the tail short and black; his flight and voice very much resemble those of a wild goose; the breast and belly are adorned with transverse dark coloured lines; he sometimes inhabits the fens, at others he lays waste the corn fields; he is said to frequent little brooks in the winter time, and is a great destroyer of the young fry of fish; he is found chiefly in the northern countries, and is very common

common in the islands about the north of Scotland.

Dr. Gemelli, in his account of New Spain, says there is a bird of this kind found there, which they call the *suppilote*, with a tuft of flesh growing upon its head, that will eat no carrion; and another very much like it, with a tuft of feathers on the head, that not only eats carrion but all filth of the city and country, insomuch, that at Vera Cruz it is forbidden to kill any of them, on account of that particular service.

THE MAGPIE AND ITS AFFINITIES.

THE Magpie is the chief of a most considerable race, which branches out into such an extensive variety, that it is almost impossible to trace the whole of them. They have, however, some general characteristics which belong to the whole tribe, such, for example, as straight powerful bills, legs of an extraor-

dinary length for the size of their bodies, and a party-coloured plumage; they all have, besides, a chattering kind of manner, which is both harsh and dissonant, when compared with the melody of the little warblers with whom they may be said to reside, and whom they constantly interrupt in their harmony. In the tropic regions they are exceedingly numerous; but it may be said, that there, although they disturb the harmony, they add to the beauty of the scene, by the splendor of their plumage. In the woods of those warm climates, the whole of this tribe may be recognized at one view; yet they can be distinguished only as the pie, the jay, the roller, the chatterer, and the toucan, though each of them extends into a hundred varieties.

At the head of them, as we before observed, stands the magpie, whose tail is long and wings short; it has a large white spot on the breast, another on each side of the body, and several of the wing-feathers are white; the other part of its plumage is black, beautifully shaded; indeed, its black, white, green, and purple, with the rich and gilded combination of the glosses on its tail, are as fine as any that adorn the most beautiful of the feathered tribe.

But

But it has so many trifling qualities, that they depreciate these natural perfections : vain, restless, loud, and quarrelsome, it is an unwelcome intruder every where; and never misses an opportunity, when it finds one, of doing mischief.

The magpie bears a great resemblance to the butcher-bird in its bill, which has a sharp process near the end of the upper chap, as well as in the shortness of its wings, and the form of the tail, each feather shortening from the two middlemost. But it agrees still more in its food, living not only upon worms and insects, but also upon small birds when it can seize them. A wounded lark, or a young chicken separated from the hen, are sure plunder; and it will even sometimes have the assurance to attack a thrush or blackbird; nay, it will seize the largest animals, when its insults can be offered with security. As a proof of this, we may appeal to almost every man who resides in the country, who must often have seen a magpie perched upon the back of an ox or a sheep, pecking out the insects which might have taken refuge in their hides, chattering and tormenting the poor animal at the same time, and stretching out its neck for combat, if the beast turned

its head backward to interrupt its employment. They seek out also the nests of small birds; and if the old ones escape, the eggs make up for the deficiency: the thrush and the black-bird are thus frequently robbed by this assassin, and to which circumstance their not being more numerous may, in some measure, be attributed.

The magpie is by no means particular in its food; it shares with ravens in their carrion, with rooks in their grain, and with the cuckoo in bird's eggs; but it seems possessed of a prudence rather unusual with gluttons: when satisfied, it lays up the remainder of the feast for another occasion. Even in a domesticated state it will hide its food when done eating, and after a time return to the secret hoard with renewed appetite and vociferation.

The magpie evidently demonstrates in all its actions that it possesses a degree of instinct superior to other birds. Its nest is not less remarkable for the manner in which it is composed, than for the place made choice of to build it in. It is usually placed in a very conspicuous situation, either in the middle of some hawthorn-bush, or on the top of some high tree. But careless as this may appear to be on the first glance, yet on examination it will be found

found to have been the choice of sagacity, for the place so chosen is invariably difficult of access; the tree pitched upon usually grows in some thick hedge-row, fenced by brambles at the root; or when in a bush, such a one is selected that it is hardly possible to get to the top twigs in which its nest is interwoven. When a secure place is chosen, the next care is to fence the nest above, so as to defend it from all the various enemies of the air. The kite, the crow, and the sparrow-hawk, are to be guarded against, for as *their* nests have sometimes been plundered by the magpie, so it is reasonably feared that they will take the first opportunity to retaliate. To prevent this, the magpie's nest is built with surprising labour and ingenuity. The body of the nest is composed of hawthorn branches, the thorns sticking outward, but well united together by their mutual insertion. Within it is lined with fibrous roots, wool, and long grass, and then curiously plastered all round with mud and clay. The canopy, which is to defend it above, is composed of the sharpest thorns, woven together in such a manner as to deny all entrance, except at the opening, which is left on the side, just large enough to permit egress and ingress to
the

the owners. In this fortress the male and female hatch and bring up their brood with security, sheltered from all attacks of the feathered race, and but seldom disturbed by man. They lay six or seven eggs, of a pale green colour, spotted with brown.

The magpie, when kept in a domestic state, still preserves its natural character with strict propriety. The same noisy, mischievous habits attend it to the cage that were conspicuous in the woods; and being more cunning, so it is also a more docile bird than any other taken into keeping. It is very easily taught to articulate words, and even sentences, very distinctly; but its sounds are too thin and sharp to be an exact imitation of the human voice.

The *jay* stands next in the tribe, and is one of the most beautiful of the British birds. The forehead is white, streaked with black; the head is covered with very long feathers, which it can erect into a crest at pleasure; the whole neck, back, breast, and belly, are of a faint purple, shaded with grey; the wings are most beautifully barred with blue, black, and white; the tail is black, and the feet of a pale brown. Like the magpie, it feeds upon fruits, will kill small birds, and is extremely docile.

The

The *Bengal jay* is a larger sized bird than the English jay; has an ash-coloured bill, and the top of the head blue; the neck and breast are a mixture of light brown and red, with a little cast of the lead colour; the wings, and the under part of the body and thighs, are blue, the upper parts of a dark muddy green; that part of the tail next to the rump, and also at the extremity, is of a dark blue; but the middle part is more pale and bright. The legs and feet are brown, a little inclining to a yellow; with black, open claws. It is a voracious sort of bird, and a devourer of fruit.

The *chatterer*, or by some called the *Bohemian jay*, may be placed next; it is somewhat less than the common jay. It is variegated with a beautiful mixture of colours; red, ash colour, chesnut, and yellow; but what distinguishes it from all other birds, are the horny appendages from the tips of seven of the lesser quill-feathers, which stand bare of beards, and have the colour and gloss of the best red sealing-wax.

The *roller* is not less beautiful than any of the former. The breast and belly are blue; the head green; and the wings variegated with blue, black, and white. But it may be distinguished from all others of this kind by a sort
of

of naked tubercles or warts near the eyes, which still farther contribute to increase its beauty.

It would be almost an endless task to follow the multiplicity of varieties that have an affinity with the magpie kind, for all the tropical forests of the east and west abound with birds remarkable for discordant voices and brilliant plumage. There is one of them, however, which merits particular notice, as being the most singular of any of the feathered creation : this is the *toucan*, whose bill is nearly as large as its whole body.

There are four or five varieties of this species, but the *red-beaked toucan* is the most particular, and is thus most minutely described by Edwards. “ It is about the size of and “ shaped like a jack-daw, with a large head to “ support its monstrous bill ; this bill, from “ the angles of the mouth to its point, is six “ inches and an half ; and its breadth, in the “ thickest part, is a little more than two. Its “ thickness, near the head, is one inch and a “ quarter ; and it is a little rounded along “ the top of the upper chap, the under side “ being round also ; the whole of the bill extremely slight, and a little thicker than parchment.”

ment. The upper chap is of a bright yellow, except on each side, which is of a fine scarlet colour; as is also the lower chap, except at the base, which is purple. Between the head and the bill there is a black line of separation all round the base of the bill, in the upper part of which the nostrils are placed, and are almost covered with feathers, which has occasioned some writers to say, that the toucan has no nostrils. Round the eyes, on each side of the head, is a space of bluish skin, void of feathers, above which the head is black, except a white spot on each side, joining to the base of the upper chap. The hinder part of the neck, the back, wings, tail, belly, and thighs, are black. The under side of the head, throat, and the beginning of the breast, are white. Between the white on the breast, and the black on the belly, is a space of red feathers, in the form of a new moon, with its horns upwards. The legs, feet, and claws, are of an ash-colour; and the toes stand like those of parrots, two before and two behind."

Notwithstanding that it is furnished with so formidable a beak, it is harmless and gentle; and we learn, from many authorities, that it

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may easily be rendered so tame as to sit and hatch its young in houses. Goldsmith says, it feeds chiefly upon pepper, which it devours very greedily, gorging itself in such a manner that it voids it crude and unconnected, and which is no objection to the natives from using it again; nay, that they even prefer it to that pepper which is fresh gathered from the tree, and seem persuaded that its strength and heat are qualified by the bird, and that all its noxious qualities are thus exhausted.

We shall not undertake to vouch for the veracity of this assertion, but it is very certain that the toucan lives only upon a vegetable diet; for when in a domestic state, to which it is frequently brought in the warm countries where it is bred, it always prefers such food to all other. Pozzo, who brought up one tame, asserts, that it leaped up and down, wagged its tail, and cried with a voice resembling that of a magpie. It fed upon the same things that parrots do, but was most greedy of grapes, which, being plucked off one by one, and thrown into the air, it would most dexterously catch before they fell to the ground. Its bill, he adds, was hollow, and upon that account very light, so that it had but little strength in

so apparently formidable a weapon ; nor could it peck or strike smartly with it. But its tongue seemed to assist the efforts of this unwieldy machine ; it was long, thin, and flat, not unlike one of the feathers on the neck of a dunghill cock ; this it moved up and down, and often extended five or six inches from the bill. It was of a flesh colour, and very remarkably fringed on each side with very small filaments, exactly resembling a feather.

It has been supposed by naturalists that this long tongue has greater strength than the thin hollow beak that contains it ; and that the beak is only a kind of sheath for this peculiar instrument, which the toucan uses, not only in making its nest, but also in obtaining its provision. It is certain, say they, that this bird builds its nest in holes of trees, which have been previously scooped out for this purpose ; and it is not very likely that so feeble a bill could be any ways serviceable in working upon such hard materials.

However this may be, no bird secures its young better from external injury than the toucan. It has not only birds, men, and serpents, to guard against, but a numerous tribe

of monkeys, still more prying, mischievous, and destructive, than all the rest. For its security, however, it scoops out a nest some how or other in the hollow of a tree, leaving only a hole just large enough to go in and out. There it sits, with its great beak, guarding the entrance; and if the monkey venture a visit of curiosity, the toucan gives him such a disagreeable reception, that he is glad to make off with the greatest expedition.

This bird is only found in the warm climates of South America, where it is in great request, both for the delicacy of its flesh, which is tender and nourishing, and for the beauty of its plumage, particularly the feathers of the breast. The skin of this part the Indians pluck off, and, when dry, glue to their cheeks, and which they consider as an irresistible addition to their beauty.

THE BIRD OF PARADISE*.

OF all the various animals which travellers have mentioned and naturalists have described, the Bird of Paradise has given rise to the greatest number of opinions and assertions, and consequently the most various and contradictory. It has been seriously insisted on by some that they were inhabitants of the air, never lighting on the ground, and that they subsisted entirely upon the dew of heaven; nay, Navarett, in his history of China, carries it so far as to add, that he was induced from this circumstance to enquire how these birds contrived to hatch their eggs, and was told by the natives, that the hens laid them upon the backs of the cocks, and there hatched them; and this tale, in spite of its ridiculous absurdity, had his belief, considering it, as he well might, as a kind of mira-

* This bird, says Buffon, is more remarkable for the false and imaginary qualities that have been attributed to it, than for its real and truly singular characteristics.

cle. There are others not quite so credulous, who believe in its never resting below, but insist that it feeds upon the insects which hover in the air; and there are still others, who, so far from allowing it to subsist on such slight food, boldly assert that it is even a bird of prey; but all of them agreeing in this one particular, namely, that these birds have neither feet nor legs.

The whole of these singular peculiarities have however been long exploded, and the Bird of Paradise is admitted to possess the same inclination for food as other birds, and not only to have legs and feet, but also to rest both on the trees and on the ground. What seems to have led to the supposition that they had not, was an artifice in the natives of the Molucca islands, where these birds chiefly inhabit, and whence they were first brought. Mandelso observes, that the native savages were particularly partial to the keeping these birds for the splendor of their plumage, and therefore, upon catching them, took out their insides, and cut off their legs close to their bodies, they being exceeding ill-formed, and the skin of which closing up, left not the smallest appearance of their ever having had any. The Europeans naturally expressing an admiration at the beauty of this
bird's

bird's plumage, and the natives, considering its legs as a great deformity, upon being asked after them, asserted that it had none, lest their being seen should diminish its estimation, and consequently its value. From this deception in the first instance, we may suppose all the foregoing absurdities to have arisen. The savages insisted that it had no legs; and the Europeans not discovering the smallest traces of any, gave credit to the assertion, and then *ingeniously* supplied the conclusion, that, as it had no legs, it must unavoidably be an inhabitant of the air, where legs were unnecessary.

These ridiculous stories, however, were of no long continuance; their absurdity led to enquiry, enquiry demonstrated facts, and those facts have clearly ascertained the real history of this no less beautiful than harmless bird.

Of the Birds of Paradise there are two kinds; the one, which is the most common, is about the size of a pigeon, though it appears to be much larger; and the other, which is not so well known, is not bigger than a lark. They are both sufficiently distinguished from all other birds, not only by their superior brilliancy of their tints, but by having two long slender filaments growing from the upper part of the tail, which

which are longer than the bird's body, and bearded only at the end, and by which peculiarity the Bird of Paradise may be easily known.

This bird appears to the eye to be larger than a pigeon, though in reality the body is not much bigger than that of a thrush. The tail, or rather the feathers which extend from the under part, is much longer than the body; and the wings are large, compared with the bird's other dimensions. The head, the throat, and the neck, are of a pale gold colour. The base of the bill is surrounded by black feathers, as also the side of the head and throat, which are as soft as velvet, and changeable, like those on the neck of a mallard. The hinder part of the head is of a shining green, mixed with gold. The body and wings are chiefly covered with beautiful brown, purple, and gold feathers. The uppermost part of the tail-feathers are of a pale yellow, and the under ones, which spread out so extensively, white, whence the hinder part of the tail appears to be all white. But the most curious circumstance is the two long naked feathers above-mentioned, which extend from the upper part of the rump above the tail, and which are usually about three feet long.

long. These are bearded only at the beginning and the end; the whole shaft, for above two feet nine inches, being of a deep black, while the feathered extremity is of a changeable colour, like the mallard's neck.

This bird, which for beauty exceeds almost all others, is a native of the Molucca islands, but is found in greatest numbers in that of Aro; in the delightful and spicy woods of that country they are to be seen in large flocks, so that it may be said, the groves which produce the richest spices abound also with the finest birds. The native inhabitants are so partial to them as to give them the name of God's birds, as being superior to all others that he has made. They live in large flocks, and at night generally perch upon the same or neighbouring trees. They are called by some the *swallows of Ternate*, from their rapid flight, and from their being continually on the wing in pursuit of insects, which are their usual prey.

The Birds of Paradise may, in some sort, be considered as birds of passage, for when the rains set in, and continual tempests agitate the air (which happen every season), they are not to be seen, though whither they resort has not hitherto been discovered. Like swallows

they have their stated times of return, which is about the beginning of August, when they are seen in great numbers flying together, always (if we may credit the inhabitants) preceded by one which they call the king, and who is distinguished from the rest by the superior lustre of his plumage, and that respect and veneration which is paid to him by the rest. In the evening they perch upon the highest trees of the forest, particularly on one that bears a red berry, which they sometimes eat, when other food fails them. In what manner they breed, or what may be the number of their young, no traveller who has visited those countries has yet been able satisfactorily to ascertain.

Since they have been in request by Europeans, the natives have become very sedulous in their endeavours to obtain them; and their mode is to conceal themselves in the trees to which these birds resort, and from thence to shoot at them with arrows made of reeds, and, as they assert, if they happen to kill the king, they then have a good chance of killing the greatest part of the flock. The chief mark by which they know the king is by the ends of the long feathers in his tail, which have eyes
like

like those of a peacock, and the want of those under feathers which spread so considerably beneath his wings and tail. When they have taken a number of these birds, their usual method is to gut them, and cut off their legs ; they then run a hot iron into the body, which dries up the internal moisture, and filling the cavity with salts and spices, they sell them to the Europeans, and in this state their plumage will keep in good preservation and perfect beauty for a number of years*.

* It is not probable that the ancients were acquainted with the Bird of Paradise, for not one of its characteristics is to be found in any of their writings ; and it is without foundation, that Belon pretends to find in this bird the phoenix of antiquity, from a feeble analogy which he has supposed to exist less in the real properties of this bird, than in the fables which have been propagated respecting both one and the other.

THE WOOD-PECKER AND ITS AFFINITIES.

UNDER the general term Wood-pecker, is comprehended a most numerous tribe, divided into an almost innumerable number of varieties; but they have several habits in common, and are easily distinguished from all others, by their peculiar formation, method of procuring food, and manner of providing a place of safety for their young. Indeed, no other species of birds seem so well formed for the method of life they pursue, being fitted by nature, at all points, for the peculiarity of their condition. They live chiefly upon the insects contained in the body of trees; and for this purpose are furnished with a straight, hard, strong, angular, and sharp bill, made for piercing and boring. They have a tongue of a very great length; round, ending in a sharp, stiff, bony thorn, dentated on each side, to strike ants and insects
when

when dislodged from their cells. Their legs are short and strong, for the purposes of climbing. Their toes stand two forward, and two backward; which is particularly serviceable in holding by branches of trees. They have hard stiff tails to rest upon when climbing. They feed only upon insects, and want that intestine called by anatomists the *cæcum*; a circumstance peculiar to this tribe only.

Of this bird there are many kinds, and many varieties in each kind; they are very numerous in the forests of every part of the world. They differ in size, colour, and appearance; and agree only in the marks above-mentioned, or in those habits which result from so peculiar a conformation. It would be a no less tedious than difficult task to attempt to enter into a general description of the whole of this tribe; we shall therefore confine our observations to those which stand the most conspicuous amongst them, and to which all the others bear a strong affinity.

The *green wood-spice*, or *wood-pecker*, is called the *rain-fowl* in some parts of the country; because, when it makes a greater noise than ordinary, it is supposed to foretel rain. It is about the size of a jay; the throat,
breast,

breast, and belly, are of a pale greenish colour; and the back, neck, and covert feathers of the wings, are green, the large feathers of the latter being beautifully spotted towards the edges; the top of the head is of a crimson colour, and the tail-feathers alternately marked with dark green and black. The wings are pretty long, measuring eighteen or twenty inches, when extended, from point to point. But the bill and tongue of this little animal are its most distinguished characteristics, and which serve for its support and defence. As already observed, the wood-pecker feeds upon insects, and particularly on those which are lodged in the body of hollow or of rotting trees, in the discovery of which, the extraordinary strength of his bill is of the greatest advantage: traversing up and down the trunk of the tree, he keeps striking with his bill, and where the place sounds hollow he stops, and by continued blows penetrates a hole in the bark sufficient to receive his bill, which he then thrusts in, and sends forth a loud whistling into the cavity, in order to disengage the insects, and put them into motion: this no sooner happens than he makes use of his tongue, which proves an excellent instrument for procuring this food ;
it

it is round, ending in a stiff, sharp, bony tip, dentated on both sides, like the beard of an arrow; and which he can dart out three or four inches from the bill, and draw in again at pleasure. The prey is thus transfixed, and drawn into the bill, which being swallowed, the dart is again launched at fresh game. Nothing has employed the attention of the curious in this part of anatomy, more than the contrivance by which the tongue of this bird performs its functions with such great celerity; and from their observations they find that the tongue is drawn back into the bill by the help of two small round cartilages, fastened into the before-mentioned bony tip, and running along the length of the tongue. These cartilages, from the root of the tongue, take a circuit beyond the ears; and being reflected backwards to the crown of the head, make a large bow. The muscular, spongy flesh of the tongue encloses these cartilages, like a sheath; and is so made, that it may be extended or contracted like a worm. The cartilages indeed have muscles accompanying them along their whole length backwards. But there is still another contrivance; for there is a broad muscle, joining the cartilages to the bones of the skull, which,

which, by contracting or dilating, forces the cartilages forward through the tongue, and then forces the tongue and all through the bill, to be employed for the animal's preservation in piercing its prey.

The wood-pecker, as we before observed, discovers, by its natural sagacity, the rotten part of a tree, and this part almost always contains ants eggs and a variety of insects ; to obtain which, it, resting on its strong claws, and leaning on the thick feathers of its tail, begins to bore with its sharp strong beak, until it penetrates pretty largely into the internal habitation. Immediately, either through pleasure at the sight of its prey, or with a desire to alarm the insect colony, it sends forth a loud cry, which throws terror and confusion among them ; they are put into general motion, endeavouring to provide for their own safety, while the bird luxuriously feasts upon them at leisure, darting its tongue with unerring certainty, and quits not its situation until it has devoured the whole, or satisfied its appetite. At times, either from a want of supply, or from an inclination to change their food, they will seek out the ant-hills ; and here again they shew a peculiar sagacity,

gacity, for as the ants are generally too deep under the earth for them to reach with their tongues, they peck away the top; which disturbing the nest, the ants are put in motion, which the wood-peckers observing, they thrust out their long tongues as far as they are able, and as the ants come upon them, they draw them in with wonderful celerity, and by this means never fail of obtaining a plentiful supply.

The wood-pecker not only makes holes in trees to procure his food, but they perforate still larger ones to form its nest, and even this seemingly arduous task they also perform with the bill, although some have affirmed that the animal uses its tongue as a gimblet, to bore with; but this supposition is evidently founded in error, since in large woods and forests the noise of the bill has, and frequently may be heard, while they are employed in that office. It is, however, certain that they select for this purpose trees that are decayed, or wood that is soft, like beech, elm, and poplar. In these, with very little trouble, they make holes as exactly round as a mathematician could with compasses. As they find no great hardship in making these holes, they are very difficult in their choice, and often make twenty before one gives entire

satisfaction; but having once fixed, they never forsake it until they have brought up their young. Except in making the cavity, they are extremely indolent with respect to the formation of their nests, not taking the trouble to give them any kind of lining, but deposit their eggs in the hole, without any thing to keep them warm, except the heat of the parent's body. Their number is generally five or six; always white, oblong, and of a middle size. When the young are excluded, and before they leave the nest, they are adorned with a scarlet plumage under the throat, which adds to their beauty.

The *great spotted wood-pecker* is not so large as the green wood-pecker, seldom weighing more than three ounces; the wings when extended being about fourteen inches from each extremity; it has a straight black bill, which grows thicker towards the head, and is about an inch long, ending in a sharp point, channelled with a furrow or two: there are a sort of black hairs, or bristles, growing out of the nostrils; the iris of the eyes red, and the tongue much the same as that of the green wood-pecker.

The

The top of the head is black, dashed with a shining sort of green; the sides of it, and the feathers that encompass the base of the upper chap, and also those about the eyes, are white, with a line of fine crimson on the back part, that runs from side to side, and joins to the white on each side of the head, with a large black stroke reaching from the corner of the mouth to the back, as low as the insertion of the wings, crossed with a black line just below the head: on the side of each wing is a great white spot; the other parts of the wings are black, beautifully interspersed with semi-circular white spots; the interior covert feathers are white, the exterior have one or two white spots; the base or ridge is whitish.

The tail is strong and stiff, about three inches long, with a forked end, bending inwards; the outermost feather on each side is black, with a white spot on the exterior web with some few transverse black strokes; the tip of a reddish white.

The *lesser spotted wood-pecker* very much resembles the other in shape and colour, but it is considerably less; the wings, when extended, are not more than ten inches from each point, and its weight is about twelve drachms; the

breast, throat and belly are of a dirty white; it has a broad streak of red upon the top of the head, the back part of which is black, with a sort of dusky colour about the nostrils; round the eyes to near the middle of the neck, on both sides, is a broad line of white feathers, which terminates with black, except about the ears, where the colour is much the same as that of the throat; the covert feathers of the wings are black; the prime feathers and the rest of the covert feathers beautifully spotted with a sort of semicircular white spots; the middle part of the back white, with black cross-lines. The hen is distinguished from the cock by a white stroke upon the top of the head, where the cock has a red one.

The *great black wood-pecker* is one of the largest of this species; the breadth between the tips of the wings, when extended, being near thirty inches, and its weight upwards of half a pound.

The bill, from the point to the angles of the mouth, is upwards of two inches in length, triangular, and very strong, of a sort of party-coloured black and white; the tongue, when extended, is of a very great length; the head is large, the eyes are of a pale yellow, the nostrils
round,

round, and covered with reflected hairs; the colour of the whole body is black, only the crown of the head, which, down to the nostrils, is of a beautiful scarlet colour. The tail is made up of very strong feathers, which are stiff, and sharp pointed at the ends, bending inwards, about six or seven inches long; this in climbing trees they rest upon, as a support to their bodies: the fore part of the legs is feathered down to the feet, the back part no farther than the knees; the claws are large and strong, the feet of a lead colour; they feed upon hexapods, worms, ants and other insects: it is a bird not very frequently found in this kingdom.

Aldrovandus observes that some or other of the different species of wood-peckers are found in most parts of Europe; they build in hollow trees, and make their nest with great ingenuity: if taken out of the tree whole, it appears round, and in size resembles a foot-ball.

The above will be sufficient to demonstrate the numerous branches which are contained in this extensive family, and from which, it is to be presumed, a pretty correct idea of the whole race may be drawn, especially as their general habits and manners perfectly correspond with those

those of the green wood-pecker, which we have, upon that account, so minutely detailed.

Before, however, we quit them entirely we must refer to a smaller tribe, who, though possessing the general characteristics, differ very much in many particulars. In our climate there are few, if any, exceptions to be found among the whole race of wood-peckers with regard to the formation of their nests in the trunks of trees, depositing their eggs therein, and hatching their young, without providing any kind of materials; but this circumstance is very differently managed and attended to by those who inhabit the warmer climates of Guinea and Brasil, and which has been thus most ingeniously described:—"A traveller, " who walks into the forests of those countries, " among the first strange objects that excite " curiosity, is struck with the multitude of " birds' nests hanging at the extremity of almost " every branch. Many other kind of birds " build in this manner; but the chief of them " are of the wood-pecker kind; and indeed " there is not, in the whole history of Nature, " a more singular instance of the sagacity of " those little animals in protecting themselves " against

“ against such enemies as they have most oc-
“ casion to fear. In cultivating countries a
“ great part of the caution of the feathered
“ tribe is to hide or defend their nests from the
“ invasions of man, as he is their most dreaded
“ enemy; but in the depth of those remote
“ and solitary forests, where man is but seldom
“ seen, the little bird has nothing to appre-
“ hend from him. The parent is careless how
“ much the nest is exposed to general notice,
“ if the monkey and the snake can be guarded
“ against. For this purpose its nest is built
“ upon the depending points of the most out-
“ ward branches of a tall tree, such as the
“ banana, or the plantain. On one of those
“ immense trees is seen the most various and
“ the most inimical assemblage of creatures
“ that can be imagined. The top is inhabited
“ by monkies of some particular tribe, that
“ drive off all others; lower down twine
“ about the great trunk numbers of the larger
“ snakes, patiently waiting till some unwary
“ animal comes within the sphere of their
“ activity; and at the edges of the trees hang
“ these artificial nests, in great abundance, in-
“ habited by birds of the most delightful plu-
“ mage.

“ The

“ The nest is usually formed in this manner :
“ when the time of incubation approaches,
“ they fly busily about in quest of a kind of
“ moss, called by the English inhabitants of
“ those countries *old man's beard*. It is a
“ fibrous substance, and not very unlike hair,
“ which bears being moulded into any form,
“ and suffers being glued together. This,
“ therefore, the little wood-pecker, called by
“ the natives of Brasil the *guiratemga*, first
“ glues by some viscous substance, gathered in
“ the forest, to the extremest branch of a tree ;
“ then building downward, and still adding
“ fresh materials to those already procured, a
“ nest is formed, that depends, like a pouch,
“ from the point of the branch : the hole to
“ enter at is on the side, and all the interior
“ parts are lined with the finer fibres of the
“ same substance, which compose the whole.

“ Such is the general contrivance of these
“ hanging nests, which are made, by some
“ other birds, with still superior art. A little
“ bird of the Grosbeak kind, in the Philippine
“ islands, makes its nest in such a manner, that
“ there is no opening but from the bottom.
“ At the bottom the bird enters, and goes up
“ through a funnel, like a chimney, till it
“ comes

“ comes to the real door of the nest, which
“ lies on one side, and only opens into this
“ funnel.

“ Some birds glue their nest to the leaf of
“ the banana-tree, which makes two sides of
“ their little habitation, while the other two
“ are artificially composed by their own in-
“ dustry. But these, and all of the kind, are
“ built with the same precautions to guard
“ the young against the depredations of monkeys
“ and serpents, which abound in every tree.
“ The nest hangs there, before the spoilers, a
“ tempting object, which they can only gaze
“ upon, while the bird flies in and out, without
“ danger or molestation, from so formidable a
“ vicinity.”

The plumage of those which inhabit the tropical regions is exceedingly various.

The *gold-merle*, or *hanging wood-pecker*, is a very curious bird, and is found in Germany, Italy, and sometimes in the southern parts of France in the months of March and April; its whole plumage is blue and green beautifully intermixed all over the body; it has a black beak, and a black spot on each side, between the bill and the eyes: the large wing-feathers of the hen are blackish, with white spots at the ends. Pliny says that these birds hang on the branches of trees by the legs, when they

sleep, with their heads downwards ; that their food is chiefly the same as that of the common wood-pecker, except the addition of figs, of which they are extremely fond ; and that they build their nests on the extremities of the boughs of large high trees, which are very curiously contrived for excluding the rain and the wind, having only a small hole for the bird to go in and out.

THE CUCKOO*.

THE Cuckoo is a genus of birds belonging to the *pica* order of naturalists, of which, though forty-six species are enumerated, we shall describe only a few of the most remarkable.

1. The *common* or *carnivorous cuckoo* : of this bird, the head, hind part of the neck, *covert* of the wings and rump, are of a dove colour, darker on the head and paler on the rump ; the throat, and upper part of the neck, are of a pale grey ; the breast and belly white, crossed elegantly with undulated lines of black ;

* The modern Greeks in the islands of the Archipelago call the cuckoo *trigono kracti*, which signifies conductor of doves, because these last usually arrive in their islands about the same time as the former. These same Greeks also call the cuckoo *ksefteri*.

the

the tail consists of ten feathers of unequal lengths; the two middle tail-feathers are black, tipped with white; the others are marked with white spots on each side their shafts. The legs are short, and the toes disposed two backwards and two forwards, like those of the wood-pecker, though it is never observed to run up the sides of trees. The female differs in some respects from this description. The neck, before and behind, is of a brownish-red; the tail barred of the same colour, and spotted on each side the shaft with white. The young birds are brown mixed with black, and in that state have been described by some authors as old ones.

The length of this bird is about 14 inches, and its breadth 25: it weighs about five ounces: the bill is black, and about two thirds of an inch in length; and the prominent rotundity of its nostrils distinguishes it peculiarly from other birds.

The return of this migratory bird is generally an indication of returning spring, and the real advancement of the year; though it sojourns the shortest time with us of any bird of passage. There is a remarkable coincidence observed between the song of these birds and mackarel continuing in full roe; that is, from about the middle of April to the latter end of June. The cuckoo is silent for some

time after his arrival ; and his pleasant though uniform note* is a call to love, and used only by the male, who sits perched generally on some dead tree, or bare bough, and repeats his song, which he loses as soon as the amorous season is over.

The note of this bird, though the sound of it is constantly associated with the idea of summer, and its attendant pleasures, is, in all countries, used in a reproachful sense: Shakespeare says,—

The plain song *cuckoo* grey,
Whose note full many a man doth mark,
And dares not answer *nay*†.

Yet Juvenal's idea seems as just,

Tu tibi nunc *corruca* places.

On the natural history of the cuckoo we have a very curious paper, by Mr. Jenner, in the Philosophical Transactions for 1788:—
“ The first appearance of cuckoos in this coun-

* The frequent repetition of its note, *cou cou, cou cou, cou cou cou*, has given rise to two provincial forms of speech. When any one repeats the same thing frequently, it is said in Germany *to sing* the cuckoo's song:— the same is said when a small number of persons imagine that they multiply themselves, and become a great assembly by much chattering and talking.

† In another place also he calls this bird's song

“ ———— a note of fear
Unpleasing to the married ear.”

“ try,

“ try, as already observed, is about the middle
“ of April (the 17th, according to Mr. Jenner,
“ ner, whose observations were made in Gloucestershire). The song of the male, which
“ is well known, soon proclaims its arrival.
“ The song of the female (if the peculiar
“ notes of which it is composed may be so
“ called) is widely different, and has been so
“ little attended to, that perhaps few are acquainted with it: the cry of the dab-chick
“ bears some resemblance to it.

“ Unlike the generality of birds, cuckoos
“ do not pair. When a female appears on the
“ wing, she is often attended by two or three
“ males, who seem to be earnestly contending
“ for her favours. From the time of her appearance till after the middle of summer, the
“ nests of the birds selected to receive her
“ eggs are to be found in great abundance;
“ but, like the other migrating birds, she does
“ not begin to lay till some weeks after her
“ arrival.

“ It is on all hands allowed, that the cuckoo
“ does not hatch its own eggs; for which
“ different reasons have been given, as will be
“ afterwards noticed. The hedge-sparrow, the
“ water-wagtail, the titlark, the redbreast, the
“ yellow-hammer, the green-linnet, or the
“ whinchat, is generally the nurse of the young
“ cuckoo.

“cuckoo. It may be supposed, that the fe-
 “male cuckoo lays her eggs* in the absence of
 “the bird in whose nest she intends to deposit;
 “as it has been known, that on sight of one of
 “these, a redbreast, and its mate, jointly at-
 “tacked her on approaching the nest, putting
 “her to flight, and so effectually drove her
 “away that she did not dare to return. Among
 “the birds above-mentioned it generally selects
 “the three first, but shews a much greater par-
 “tiality to the hedge-sparrow. This last com-
 “monly takes up four or five days in laying her
 “eggs. During this time (generally after she has
 “laid one or two) the cuckoo contrives to de-
 “posit her egg among the rest, leaving the
 “future care of it entirely to the hedge-
 “sparrow. This intrusion often occasions
 “some discomposure, for the old hedge-sparrow,
 “whilst she is sitting, not unfrequently throws
 “out some of her own eggs, and sometimes
 “injures them in such a way that they be-
 “come addle; so that it more frequently
 “happens that only two or three hedge-
 “sparrows eggs are hatched with the cuckoo’s
 “than otherwise. But whether this be the
 “case or not, she sits the same length of time

* The cuckoo very seldom lays more than one egg in the same place.

“ as if no foreign egg had been introduced,
“ the cuckoo’s egg requiring no longer in-
“ cubation than her own.

“ When the hedge-sparrow has sat her usual
“ time, and disengaged the young cuckoo, and
“ some of her own offspring, from the shell,
“ her own young ones, and such of the eggs
“ that remain unhatched, are soon turned out,
“ the young cuckoo remaining possessor of the
“ nest, and sole object of her future care.
“ The young birds are not previously killed,
“ nor are the eggs demolished, but all are left
“ to perish together, either entangled about the
“ bush which contains the nest, or lying on
“ the ground under it.

“ The early fate of the young hedge-sparrows
“ is a circumstance that has been noticed by
“ others, but attributed to wrong causes. A
“ variety of conjectures have been formed
“ upon it. Some have supposed the parent
“ cuckoo the author of their destruction;
“ while others, as erroneously, have pro-
“ nounced them smothered by the dispropor-
“ tionate size of their fellow-nestling. Now
“ the cuckoo’s egg being not much larger
“ than the hedge-sparrow’s, it necessarily fol-
“ lows, that at first there can be no great dif-
“ ference in the size of the birds just burst.
“ from

“ from the shell. Of the fallacy of the former
“ assertion also I was some years ago convinced,
“ by having found that many cuckoo eggs were
“ hatched in the nest of other birds after the
“ old cuckoo had disappeared ; and by seeing
“ the same fate then attend the nestling sparrows
“ as during the appearance of old cuckoos in
“ this country.”

From much attention, and a variety of examples, Mr. Jenner was enabled to ascertain this curious fact relative to the incubation and rearing of the young cuckoo ; a fact, which, as he acknowledges, is so much out of the ordinary course of nature, that it might reasonably excite a doubt.

The smallness of the cuckoo's egg, in proportion to the size of the bird, is a circumstance to be noticed ; its size is generally less than that of the house-sparrow, though the difference in the size of the birds is nearly as five to one. The colour of the cuckoo's egg is also very variable, but often resembling the house-sparrow's.

The mode by which the young cuckoo contrives to eject the native possessor of the nest is highly curious. The little animal, with the assistance of its rump and wings, contrives to get the young sparrow (or other bird) upon
its

its back ; and making a lodgment for the burthen, by elevating its elbows, clammers backwards with it up the side of the nest till it reaches the top, where resting a moment, it throws off its burthen with a jerk, and quite disengages it from the nest ; it then remains for a little time in that situation, and feels about with the extremities of its wings, to be convinced that the business is properly executed.

The number of nestlings destroyed by the cuckoo must undoubtedly be very great ; but though nature permits this waste, yet the animals thus destroyed are not thrown away, or rendered useless. At the season when this happens, great numbers of tender quadrupeds and reptiles are seeking provisions ; and if they find the callow nestlings which have fallen victims to the young cuckoo, they are furnished with food well adapted to their peculiar state.

Why the cuckoo should not, like other birds, build a nest, incubate its eggs, and rear its young, is a circumstance that naturalists, ancient or modern, have been unable to resolve. Mr. Jenner suggests the following as the most plausible reasons : “ The short residence this bird is allowed to make in the country where it is destined to propagate its
VOL. I. R r “ species,

“ species, and the call that nature has upon it;
“ during that short residence, to produce a nu-
“ merous progeny.”

The growth of the young cuckoo is extremely rapid; it has a plaintive chirp, which is not learned from its foster-parent; and it never acquires the adult note during its stay in this country. A fierceness of disposition shews itself long before it leaves the nest; for when irritated, it assumes the manners of a bird of prey, looks ferocious, throws itself back, and pecks with great vehemence at any thing presented to it, often making a chuckling noise like a young hawk.

In a state of nature, caterpillars seem to be the chief food of the cuckoo; but when brought up tame, as is often the case, they will eat bread, milk, fruit, insects, eggs, and flesh either cooked or raw. When fat, they are said to be good eating. The ancient Romans admired them. Pliny speaks of them as a delicacy; and the French and Italians eat them to this day.

Africa is supposed to be the spot whither they migrate, since they are observed to visit the island of Malta twice a year; that is, in their passage backwards and forwards to that part of the

the world. The cuckoo is said to be common in Sweden, but to appear a month later than with us. And Russia is not destitute of them, as appears by a specimen brought from Kamtschatka, now in the possession of Sir Joseph Banks.

2. The *Americanus*, or cuckoo of Carolina, is about the size of a blackbird, the upper mandible of the bill black, the lower yellow; the large wing feathers are reddish; the rest of the wing, and all the upper part of the body, head, and neck, are of an ash colour; all the under part of the body, from the bill to the tail, white; the tail long and narrow, composed of six long and four shorter feathers; the legs short and strong. Their note is very different from the cuckoo of this country, and not so remarkable as to be taken notice of. It is a solitary bird, frequenting the dark recesses of woods and shady thickets. They retire on the approach of winter.

3. The *Indicator*, or honey-guide, is a native of Africa. The following description is given of it by Dr. Sparrman in the Philosophical Transactions for 1777. “ This curious
“ species of cuckoo is found at a considerable
“ distance from the Cape of Good Hope, in

“ the interior parts of Africa, being entirely
“ unknown at that settlement. The Dutch
“ settlers thereabouts have given this bird the
“ name of ‘ honey guide,’ from its quality of
“ discovering wild honey to travellers. Its co-
“ lour has nothing striking or beautiful. Its
“ size is considerably smaller than that of our
“ cuckoo in Europe ; but, in return, the in-
“ stinct which prompts it to seek its food in a
“ singular manner is truly admirable. Not
“ only the Dutch and Hottentots, but likewise
“ a species of quadruped, named *ratel* (proba-
“ bly a new species of badger), are frequently
“ conducted to wild bee-hives by this bird,
“ which, as it were, pilots them to the very
“ spot. The honey being its favourite food,
“ its own interest prompts it to be instrumental
“ in robbing the hive, as some scraps are com-
“ monly left for its support. The morning and
“ evening are its time of feeding, and it is then
“ heard calling in a shrill tone, *cherr, cherr*;
“ which the honey-hunters carefully attend to
“ as the summons to the chace. From time to
“ time they answer with a soft whistle ; which
“ the bird hearing, always continues its note.
“ As soon as they are in sight of each other,
“ the bird gradually flutters towards the place
“ where

“ where the hive is situated, continually re-
“ peating its former call of *cherr, cherr*; nay,
“ if it should happen to have gained a consi-
“ derable way before the men, it returns to
“ them again, and redoubles its note, as it were
“ to reproach them with their inactivity. At
“ last the bird is observed for a few moments
“ to hover over a certain spot, and then silently
“ retiring to a neighbouring bush or resting
“ place, the hunters are sure of finding the bees’
“ nest in that identical spot; whether it be in
“ a tree, or the crevice of a rock, or, as is
“ most commonly the case, in the earth.
“ Whilst the hunters are busy in taking the
“ honey, the bird is seen looking on attentively
“ to what is going forward, and waiting for
“ its share of the spoil. The bee-hunters never
“ fail to leave a small portion for their con-
“ ductor, but commonly take care not to leave
“ so much as would satisfy its hunger. The
“ bird’s appetite being whetted by this parsi-
“ mony, it is obliged to commit a second trea-
“ son, by discovering another bees’ nest, in
“ hopes of a better salary. It is further ob-
“ served, that the nearer the bird approaches
“ the hidden hive, the more frequently it re-
“ peats

“peats its call, and seems the more impatient.
“I have had frequent opportunities of seeing
“this bird, and have been witness to the de-
“struction of several republics of bees by means
“of its treachery. I had, however, but two
“opportunities of shooting it, which I did to
“the great indignation of my Hottentots. It
“is about seven inches in length, and is of a
“rusty brown colour on the back, with a
“white breast and belly.” A nest which
was shewn to Dr. Sparrman for that of this
bird, was composed of slender filaments of
bark woven together in the form of a bot-
tle; the neck and opening hung downwards,
and a string, in an arched shape, was sus-
pended across the opening fastened by the two
ends, perhaps for the bird to perch on.

4. The *Cape cuckoo* is somewhat smaller than
ours; the bill is a deep brown, the upper part
of the body a greenish brown; the under parts
of the body white, crossed with lines of black,
the legs reddish brown. It inhabits the Cape
of Good Hope; and is probably the same bird
as the *edolis*, so called from its pronouncing
that word frequently in a low melancholy
tone.

tone. Voyagers also mention another cuckoo which is common at Loango, in Africa. It is bigger than ours, but of the same colour, and repeats the word *cuckoo* like that bird, but in different inflexion of voice.

5. The *honoratus*, or *sacred cuckoo*, is somewhat less than our cuckoo; the general colour is a blackish ash in the upper parts, marked with two spots of white on each feather; beneath white, transversely spotted with ash-colour. This species inhabits Malabar, where the natives hold it sacred. It feeds on reptiles, which, perhaps, may be such as are the most noxious: if so, this seeming superstition may have arisen from a more reasonable foundation than many others of the like sort.

6. The *shining cuckoo* is the size of a small thrush; the bill is bluish; the upper part of the body green, with a rich gilded gloss; the under parts are white, transversely waved with green gold; the under coverts of the tail almost white; the quills and tail dusky brown; the legs bluish. This inhabits part of New Zealand, where it is called *poops-arowro*.

7. The *xetula* is somewhat bigger than a blackbird.

blackbird. It inhabits Jamaica, where it is frequently in the woods and hedges all the year round. It feeds on seeds, small worms and caterpillars, and is very tame. This bird has the name *tacco* from its cry, which is like that word; the first syllable of this is pronounced boldly, the other following in a full octave lower than the first. It has also another cry like *qua, qua, qua*; but that only when alarmed by an enemy. Besides insects it will also eat lizards, small snakes, frogs, young rats, and sometimes even small birds. The snakes they swallow head foremost, letting the tail hang out of the mouth till the fore-parts are digested. It is probable that this bird might be easily tamed, as it is so gentle as to suffer the negro children to catch it with their hands. Its gait is that of leaping like a magpie, being frequently seen on the ground; its flight is but short, chiefly from bush to bush. At the time when other birds breed, they likewise retire into the woods, but their nests have never yet been found, from which it may reasonably be inferred, that they were indebted to other birds for the rearing their young in the manner

manner of the common cuckoo. It has the name of *rain-bird*, as it is said to make the greatest noise before rain; and is common all the year at Jamaica. In another species or variety, common in Jamaica, the feathers on the throat appear like a downy beard, whence, probably, arose the name of *old-man rain-bird*, given there, and by Ray, Sloane, &c.

8. The *Nævius*, *spotted cuckoo*, or *rail bird*, is about the size of a field-fare; it inhabits Cayenne, and is often seen perched upon gates and rails, whence it is named.

9. The *Cayanus*, or *Cayenne cuckoo*, is the size of the blackbird, and in that country goes by the name of the *devil*. The natives consider it as a bird of ill omen; and will not touch its flesh, which is to be sure very bad and lean: it is remarkably tame, and will suffer itself almost to be touched without offering to escape.

Thirty-seven other species are enumerated in various parts of the world, but they are destitute of distinguishing characteristics that would render their history interesting.

THE PARROT.

THIS is a genus which comprehends a numerous race, and which branches out into an almost immensity of species, so much so, that, as Buffon remarks, if the nomenclators had no other motive than to make a catalogue, they might have swelled out a volume with parrots alone, especially had they been inclined to consider every change of colour as a particular species, and there is little other difference in many of their distinctions. Linnæus reckons forty-seven varieties, while Brisson enumerates ninety-five, and even that number might be doubled with equal propriety. But quitting these elaborate philosophers, who frequently attempt to establish a distinction where there is scarcely any difference, we shall consider them under the general applications given by those who seem best acquainted with them, which are no more than four. The first and largest kind

kind are of the size of a raven, and are called *maccaws*; the next size are simply called *parrots*; those which are entirely white, are called *lories*; and the smallest, *paroquets*. The difference between even these is rather in the size than in any other peculiar conformation, as they are all formed alike, having toes, two before and two behind, for climbing and holding; strong hooked bills for breaking open nuts, and other hard substances, on which they feed; and loud harsh voices, by which they fill their native woods with clamour. Their voices, indeed, are more like a man's than that of any other bird; the raven is too hoarse, and the jay and magpie too shrill to resemble the truth; the parrot's note is of the true pitch, and capable of a number of modulations.

The facility with which this bird is taught to speak, and the great number of words which it is capable of repeating, are equally surprising. We are assured, by a grave writer, that one of these was taught to repeat a whole sonnet from Petrarca; and this may very easily be credited, since whimsical instances of their repeating certain phrases are in the power of almost every one to relate. We can speak from our own knowledge of one that would call to the vender of any article who cried it under the window

where it hung, and upon the man or woman asking, "Did you call, Ma'am?" would reply, "No, none to day," to the no small mortification of the party it had stopped; and the mirth of the spectator; with whom it would instantly join in a hearty laugh. There is a curious story of this kind told by Willoughby; who says, that "A parrot belonging to King Henry the Seventh, who then resided at Westminster, in his palace by the river Thames, had learned to talk many words from the passengers as they happened to take water. One day, sporting on its perch, the poor bird fell into the water, at the same time crying out, as loud as he could, *A boat! twenty pound for a boat!* A waterman, who happened to be near, hearing the cry, made to the place where the parrot was floating, and taking him up restored him to the king. As it seems the bird was a favourite, the man insisted that he ought to have a reward rather equal to his services than his trouble; and, as the parrot had cried twenty pounds, he said the king was bound in honour to grant it. The king at last agreed to leave it to the parrot's own determination, which the bird hearing, cried out, *Give the knave a groat.*"

The

The parrot is a native of the tropical regions; and in the East and West Indies it is as numerous and familiar as ravens and crows are with us. They are distinguished from almost every other bird by a number of peculiarities; for, besides those already alluded to, their toes are contrived in a singular manner, which appears when they walk or climb, and when they are eating. For the first purpose they stretch two of their toes forward and two backward; but when they take their meat, and bring it to their mouths with their foot, they dexterously and nimbly turn the greater hind toe forward, so as to take a firmer grasp of the nut, or the fruit they are going to feed on, standing all the while upon the other leg. They do not even present their food in the usual manner; for other animals turn their meat inwards to the mouth; but these, in a seemingly-awkward position, turn their meat outwards, holding the nuts, for example, as it were, from them, till with their bills they break the shell, and extract the kernel. And here we find another very great singularity, for the upper as well as the lower chap is moveable. In most other birds the upper chap is connected, and makes but one piece with the skull; but in these, and in
one

one or two other species of the feathered tribe, the upper chap is connected to the bone of the head by a strong membrane, placed on each side, that lifts and depresses it at pleasure. In consequence of this formation they can open their bills the wider, which is highly necessary to them, from the upper chap being so hooked and so over-hanging, that, if the lower chap alone had motion, they could scarcely gape wide enough to take in sufficient for their sustenance.

As these birds cannot readily hop from bough to bough (their legs not being adapted for that purpose), when inclined to climb they use both the beak and the feet, first catching hold with the beak, as if with a hook, and drawing up the legs and fastening them; then advancing the head and the beak again, and so putting forward the body and the feet alternately, till they accomplish their intentions.

We have already observed that the tongue of this bird somewhat resembles that of a man, and to which cause has been attributed their being so well qualified to imitate the human speech; but it has been clearly demonstrated, by several celebrated anatomists, that the organs by which these sounds are articulated lie farther down in the throat, being performed by the great motion
which

which the *os hyoides* has in these birds beyond what is the case with any others of the feathered race.

The parrot, though common enough in Europe, will not, however, breed in any part of it*. The climate is too cold for its warm constitution, and though it can withstand our winter, when arrived at maturity, yet it always seems sensible of the cold, and loses both its spirit and appetite during the inclement part of the season: it becomes inactive, and seems quite changed from that bustling loquacious animal it appears during the warmth of summer. They will, however, live even here a considerable time, if properly attended to and taken care of. It requires much pains and practice to teach them to speak, for at first they obstinately resist all instruction, and are only to be won by perseverance: after being con-

* Virey observes, that in the year 1793 the heat was so great at Basle, in Switzerland, that a young parrot laid two eggs; she did not however sit upon them, but died at the end of two days, in consequence of this effort, which is very extraordinary in Europe, particularly in Switzerland. The same phenomenon has frequently been observed in Paris, during the hottest summers. An artificial heat elevated to the temperature of the countries inhabited by this species of birds, would, perhaps, enable the parrots to lay and hatch young ones.

tinually

tinually teased, as it were, with one sound, and at the same time kept in good humour by caresses and fondness, they will begin endeavouring to imitate what they so constantly hear, and having once caught the first sound, and being able to repeat the first word, they afterwards learn with great facility, and repeat with good articulation.

It is remarked by Goldsmith, that “ In going through the towns of France some time since, I could not help observing how much plainer their parrots spoke than ours, and how very distinctly I understood their parrots speak French, when I could not always understand our own, though they spoke my native language. I was at first for ascribing it to the different qualities of the two languages, and was for entering into an elaborate discussion on the vowels and consonants; but a friend that was with me solved the difficulty at once, by assuring me that the French women scarcely did any thing else the whole day than sit and instruct their feathered pupils; and that the birds were thus distinct in their lessons in consequence of continual schooling.”

But however expert the parrots of France may be, they are very inferior to those of the Brasils, where the education of a parrot is considered

sidered as a very serious affair. Clusius assures us that the parrots of that country are the more sensible and cunning of all animals that are not endued with reason; particularly the great parrot, called the *aicurous*, the head of which is adorned with yellow, red, and violet, the body green, the end of the wings red, and the feathers of the tail long and yellow. This bird, he asserts, (which is seldom brought into Europe) is a prodigy of understanding, and as an instance gives the following account: "A certain Brazilian woman, that lived in a village two miles distant from the island on which we resided, had a parrot of this kind which was the wonder of the place. It seemed endued with such understanding, as to discern and comprehend whatever she said to it. As we sometimes used to pass by that woman's house, she used to call upon us to stop, promising, if we gave her a comb, or a looking-glass, that she would make her parrot sing and dance to entertain us. If we agreed to her request, as soon as she had pronounced some words to the bird, it began not only to leap and skip on the perch on which it stood, but also to talk and to whistle, and to imitate the shoutings and exclamations of the Brasilians when they

VOL. I. T t " prepare

“prepare for battle. In brief, when it came
“into the woman’s head to bid it sing, it sang;
“to dance, it danced. But if, contrary to our
“promise, we refused to give the woman the
“little present agreed on, the parrot seemed to
“sympathize in her resentment, and was silent
“and immoveable; neither could we, by any
“means, provoke it to move either foot or
“tongue.”

It is not only in a domestic state that parrots shew their sagacity, for in their native residence among the woods they sufficiently shew that cunning is natural to them. There they live together in flocks, and mutually assist each other against their enemies, either by their courage or notes of warning. They generally breed in hollow trees, where they make a round hole, but take no trouble to line their nests. If they find any part of a tree beginning to rot from the breaking off of a branch, or any such accident, this they take care to scoop, and to make the hole sufficiently wide and convenient; but they frequently content themselves with the hole which a woodpecker has wrought, and then forsaken, because not perfectly agreeable to its mind. In this kind of nest the common parrot generally lays two,

two, or at most three, eggs, which are like those of the pigeon, and about the same size. They are always marked with little specks, like those of a partridge. It is, however, to be observed, that the smaller kinds sometime lay four or five; but this only tends to strengthen the remark we have had frequent occasion to make, namely, that the smaller the animal, the more prolific it is. Some travellers assure us, that their nests are always found in the trunks of the tallest, the straightest, and the largest trees; and that the natives of those countries, who have little else to do, are very assiduous in watching out the places where the parrot is seen to nestle, because those birds have always the greatest docility that are taken young from the nest, and are therefore the most esteemed by Europeans. From constant observation they are enabled to judge pretty nearly when the young ones are about to fly; and their usual method to come at the nest, is by cutting down the tree. In the fall of the tree it often happens that the young parrots are killed; but if one of them survive the shock, the natives consider that as a sufficient recompence for their trouble.

But as the natives are not able at all times to supply the demand for young ones, they are

then contented to take the old; and for that purpose shoot them in the woods with arrows, headed with cotton, which knocks down the bird without killing it. This mode, however, is not always equally successful, as notwithstanding all their care, many of them die of the blow they have received. But even this is not entirely a disappointment, for the savage takes them home as provision for his family; and it is also to be observed, that though some of them are but tough and ill-tasted, yet there are others, particularly of the small paroquet tribe, that are very delicate food. In general it follows, that whatever fruit or grain these birds mostly feed upon, their flesh partakes of the flavour, and becomes good or ill tasted, according to the quality of their particular diet. When the guava is ripe, they are at that season fat and tender; if they feed upon the seed of the acajou, their flesh contracts a flavour of garlic; if they feed upon the seed of the spicy trees, their flesh then tastes of cloves and cinnamon; while, on the contrary, it is insupportably bitter if the berries they feed on are of that quality. The seed of the cotton-tree intoxicates them in the same manner as wine does man: even wine itself is drunk by parrots; and

Aristotle

Aristotle maintains, that by a supply of wine they are rendered more talkative and amusing. But of all food, they are fondest of the carthamus, or bastard saffron ; which, though strongly purgative to man, agrees perfectly with their constitution, and fattens them in a very short time.

According to Labat, the paroquets of Brasil are the most beautiful in their plumage, and the most talkative. He says they are very tame, and appear fond of man ; that they seem pleased when holding parley with him ; for while he continues to talk they answer him, and appear resolved to have the last word ; but they are possessed of another quality which is sufficient to prevent this association ; that is, their flesh is exceedingly delicate, and highly esteemed. For the purpose of supplying the table, they are greatly sought after ; and the practice is to shoot them as we do game in this country. They are very numerous in the woods, whither the sportsmen pursue them ; but as they are green, and exactly the colour of the leaves among which they sit, he only hears their prattle, without being able to see a single bird ; he looks round him, sensible that his game is within gun-shot in abundance, but is mortified to the last degree.

degree that it is impossible to see them. Unfortunately for these little animals, they are restless and ever on the wing, so that in flying from one tree to another he has but too frequent opportunities of destroying them. Besides this restlessness, it is a common practice with them, as soon as they have stripped the tree, on which they sit, of all its berries, for one of them to fly off to another, and, if that be found fit for the purpose, it gives a loud call, upon which all the rest immediately follow. This is the only fair opportunity the sportsman has to look for, and of which he seldom fails to take advantage: aware of the call, he is prepared when they take wing, and, by firing among the flock, generally gets pretty amply rewarded for that exercise of his patience, which the sport renders absolutely necessary. The survivors, instead of taking flight at the report of the gun, rather take part with their fallen companions, set up a loud screaming against their destroyer, and which they do not relinquish, until they observe him prepared with a second charge, when self preservation becomes requisite.

Notwithstanding there are so many motives for destroying these beautiful birds, they are in very great plenty, and, in some countries on the coast

coast of Guinea, are considered by the negroes as their greatest tormentors. The flocks of parrots persecute them with their unceasing screaming, and devour whatever fruits they attempt to produce by cultivation in their little gardens. In other places they are not so destructive, though equally common; indeed, there is scarcely a country of the tropical climates that has not many of the common kinds, as well as some peculiarly its own. Travellers have counted more than a hundred different kinds on the continent of Africa only; there is one country in particular, north of the Cape of Good Hope, which takes its name from the multitude of parrots that are seen in its woods. There are white parrots seen in the burning regions of Ethiopia; in the East Indies, they are of the largest size; in South America, they are docile and talkative; in all the islands of the Pacific Sea and the Indian Ocean, they swarm in great variety and abundance, and add to the splendor of those ever verdant forests*.

So general are these birds at present, and so great is their variety, that nothing seems more extraordinary than that one sort only of them

* In the Molucca islands, says Labillardiere, vol. ii, p. 301, the inhabitants brought us a great number of paroquets

them should have been known to the Romans, and that at a time when they pretended to be masters of the world. The green paroquet, with a red neck, was the first of the kind that was brought into Europe, and the only one that was known to the ancients, from the time of Alexander the Great to the Age of Nero. This was brought from India; and when, afterwards, the Romans began to seek and hunt through all their dominions for new and unheard of luxuries, they at last found out several other parrots in Gaganda, an island of Ethiopia, and which they considered as an extraordinary discovery.

Besides the disorders usual with other birds, parrots have two, peculiar to their kind. They are sometimes struck by a kind of apoplectic blow, by which they fall from their perches, and for a while seem ready to expire. The other is the growing of the beak, which becomes so very much hooked as to deprive them of the species called *psittacus Alexandri*: and at p. 297, vol. ii, the same traveller adds: "the birds, particularly the paroquets, are so multiplied on this island (*Bourou*, one of the Moluccas), that it is very probable its name is hence derived; as, in the Malay language, it signifies *bird*."

of

of the power of eating. These infirmities, however, do not hinder them from being long-lived, for a parrot, well kept, will live five or six and twenty years.

We shall not pretend to trace the whole of this tribe, nor to mark their differences, yet we deem it necessary to point out some of their leading traits, and are of opinion, that, by describing the principals, we shall give a tolerable correct idea of the several branches of this extensive family. First, then, stands

The *maccaw*, which is by far the largest of the parrot kind, being as big as a full-sized capon; they are found chiefly in the West-Indies, and where, notwithstanding they are plenty, they are held in great estimation. They have a very crooked bill, almost in the form of a semicircle, which is full three inches long, and of a light ash colour; they have short thick legs, of a dusky colour, with long toes and black talons; their heads, necks, breasts, and the under parts of their bodies, but particularly their tails, are of a fine scarlet, and the rest of their bodies of a beautiful and rich blue.

The *common parrot* may be said to comprehend two kinds, namely, the grey and the

green; the first of which is by much the largest. The general characteristics of the grey parrot is the having a strong black bill, very much hooked; (as is the case with the whole of this race) its body is of a grey, or lead colour, rather shaded with white about the head; and frequently reddish feathers in their wings and tails. The green parrot, as the appellation implies, is mostly of that colour, though some are much darker than others: its head is generally shaded with a bright yellow, very frequently approaching to a gold colour; some of them also have scarlet feathers upon their tails and wings; others blue, and many have both; but these trifling variations are so exceedingly numerous, that it would be no less prolix than unnecessary to dwell upon them.

The *lori*. The most beautiful of this species is that brought from the Brasils, and which is pretty nearly the size of a common parrot. It has a fine bright blue tuft of feathers growing on the top of the head; the rest of the head and the neck, and the upper part of the back, are scarlet, with a fine ring of yellow encircling the neck; the covert feathers of the wings are a fine green, intermixed with yellow,
and

and the quill-feathers of a bright blue ; the rest of the body is of a pale red, and the tail-feathers generally ending with purple.

The *paroquet*: the most eminent of these is the one which is a native of Bengal: it is considerably less than the common parrot: the upper part of the bill is yellow, and the lower part black. The back part of the head of a palish red, shaded with purple; the throat is of a dark colour, with a small black circle running round the lower part of the neck; the belly, breast, and thighs, are of a pale yellowish colour, shaded with green; the wings, the back, and upper side of the tail, are of a beautiful grass green: the tail is composed of but few feathers, those in the middle being the longest; under the side it is of a pale yellow; the legs ash-coloured. This bird by the natives of Bengal is called *Fridatutah*.

Mr. Walker, in his Memoirs of the Royal Society, has observed with relation to the *paroquet*, which he had the curiosity to dissect, that it has, besides the gizzard, two craws, the uppermost being only a receptacle or sack for the food, which is canary seed, to be again returned to the mouth, where it is re-chewed, having before been only husked, this animal ruminating as
some

some quadrupeds do; and he says, he observed it, when upon the perch, not only bring up its food again into its mouth, and there chew it, but when the cock and hen sit together on the perch, he would put the food out of his own mouth into the hen's. Their manner of chewing is thus: the under bill being shorter, shuts within the upper, or against the roof of the mouth, which is fitted with several rows of very small cross-bars as the mouths of horses, dogs, and some other animals are; these bars are not soft, but horny, as being part of the upper bill; so that the bird, by carrying the edge of the under bill, and end of the tongue, against the ridges in the upper, breaks and reduces to a pap the seeds that have been first moistened in the craw, to expedite which actions, the upper bill is joined just below the eyes; the food being thus macerated, is by the *gula* again committed to the second craw; hence the food passes into the gizzard, or proper ventricle, where by the motion of the gizzard it is comminuted, and thence transmitted to the intestines, on the sides of which, within a small distance, is placed the *pancreas*.

END OF THE FIRST VOLUME.



FIG. 10.

Bustard.



FIG. 13.

Peacock.



Cock.



Turkey.



FIG. 15.
Cuck of the Wood.



FIG. 16.
Black Cock.

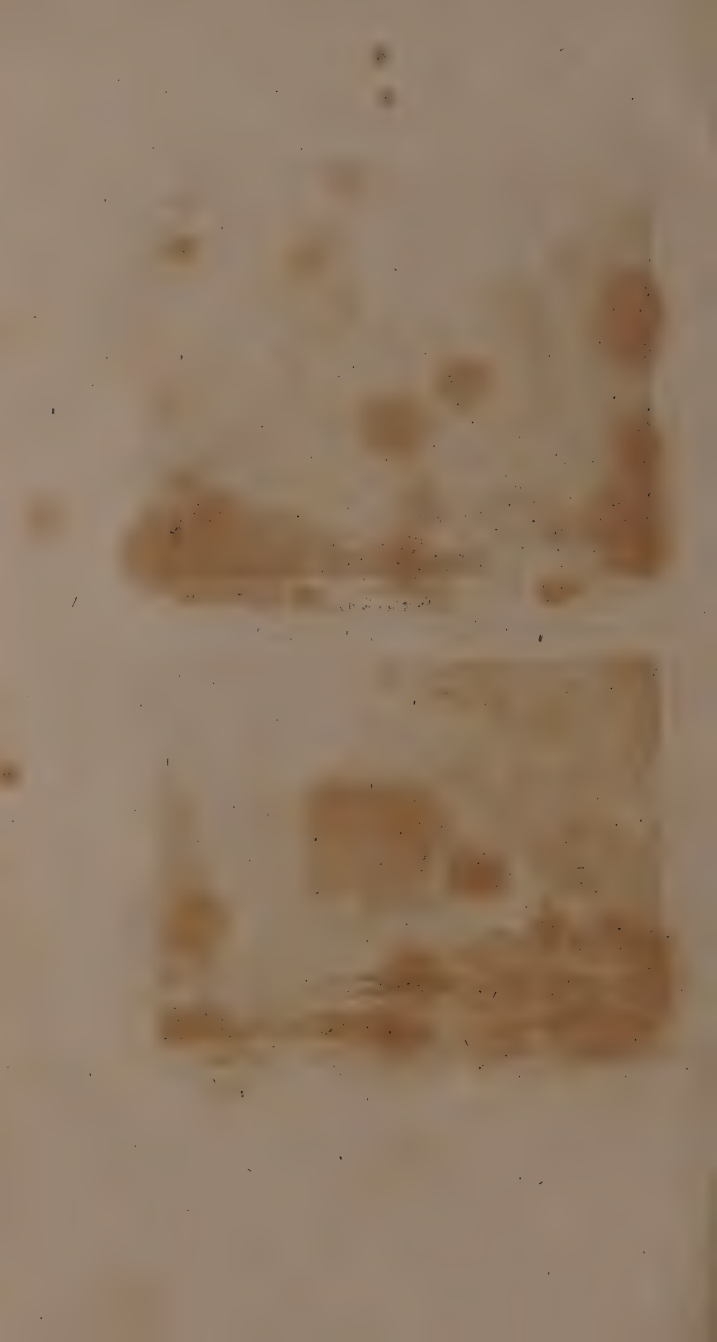




FIG. 19.
Gold Pheasant

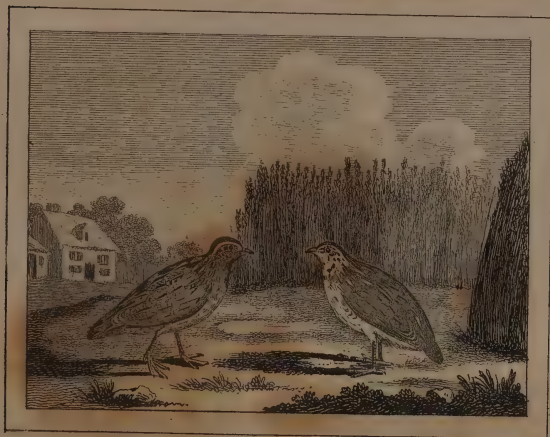


FIG. 20.
Silver Pheasant





Male & Female Partridges.



Male & Female Quails.





Magpie.



Crow.

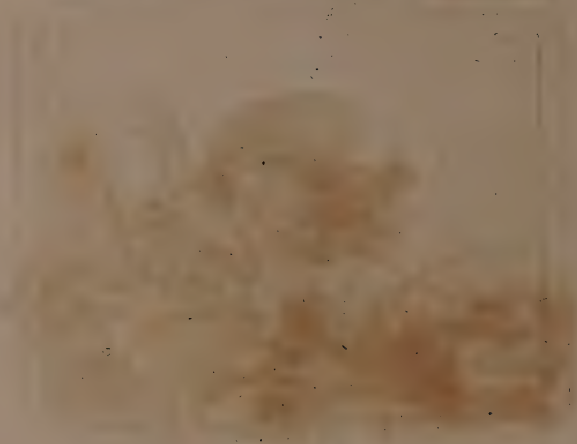
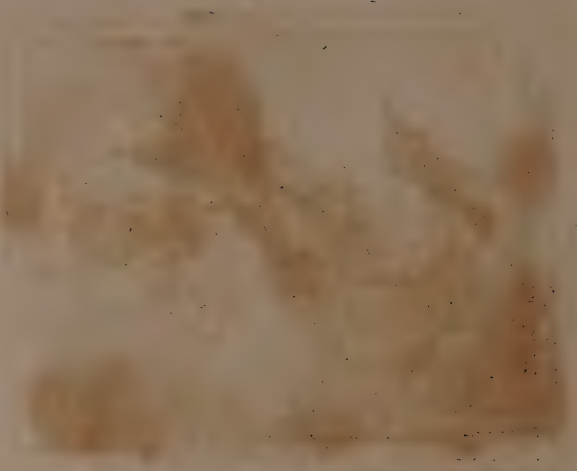




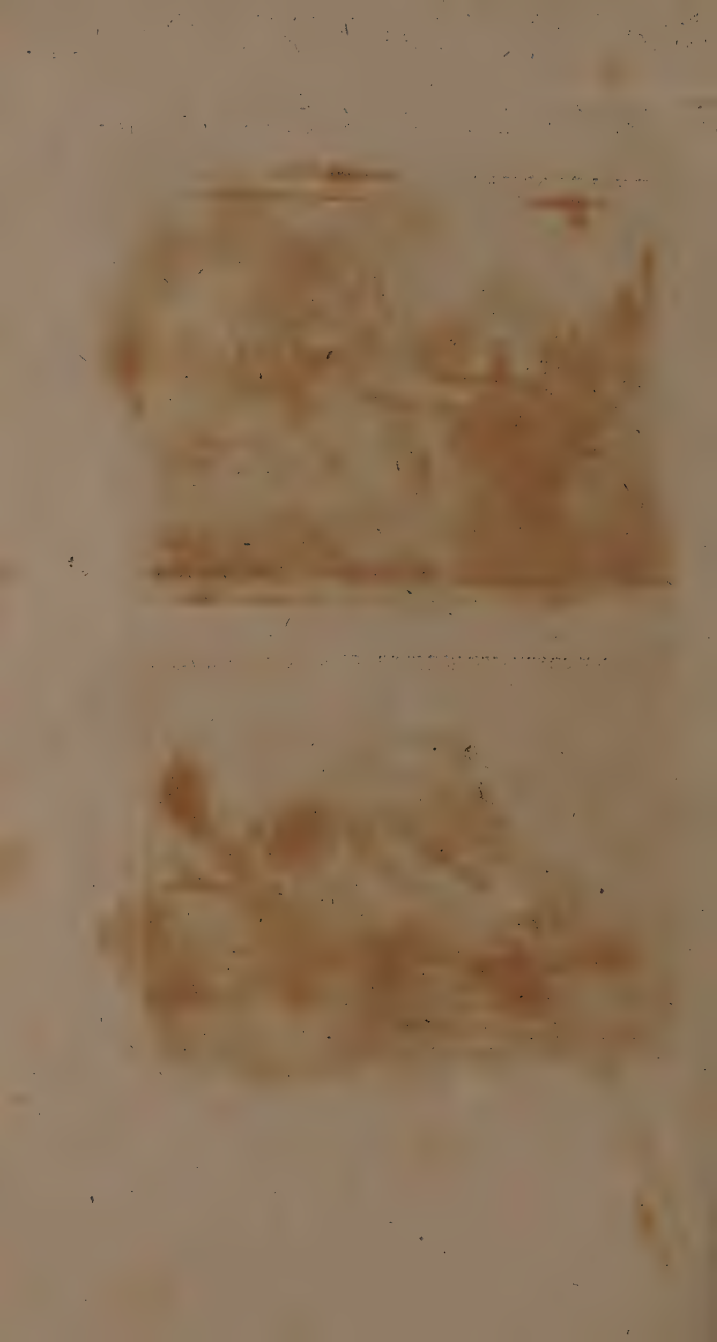
FIG. 25.

Bird of Paradise.



FIG. 26.

King Bird of Paradise.





Tropic Birds & Nest.



Cuckoo.

Woodpecker.





The Lory.



Green Parrott.

